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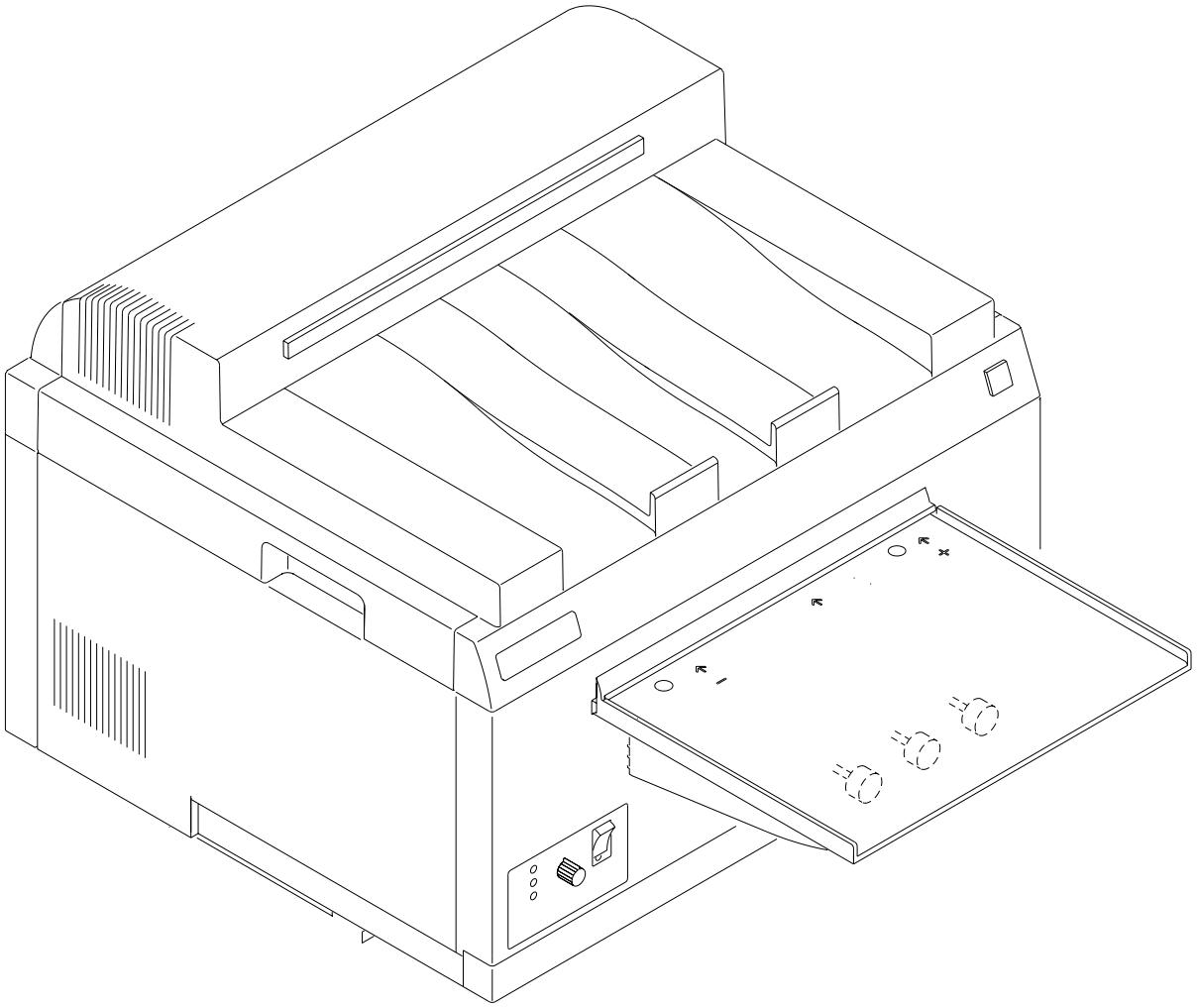
INSTALLATION INSTRUCTIONS for the *Kodak X-Omat* M43 and M43A PROCESSORS and the *Kodak X-Omat* Clinic 1 PROCESSOR



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HEALTH SCIENCES DIVISION

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Warning

To avoid hazardous conditions, keep floors and floor coverings around your *Kodak X-Omat* Processors and associated drains clean and dry at all times. Any accumulation of fluids from mixing tanks, drain lines, etc., should be cleaned up immediately. In the event of an accumulation of liquid due to backup, overflow, or other malfunctions of the drain associated with your *Kodak X-Omat* Processor, call a plumber or other contractor to correct any problem with the drain. Kodak accepts no responsibility or liability whatsoever for the serviceability of any drain connected to or associated with a *Kodak X-Omat* Processor. Such drains are the sole responsibility of the customer.

This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use caution to prevent damage during all service procedures.

Important

This manual is intended for use by qualified service personnel only.

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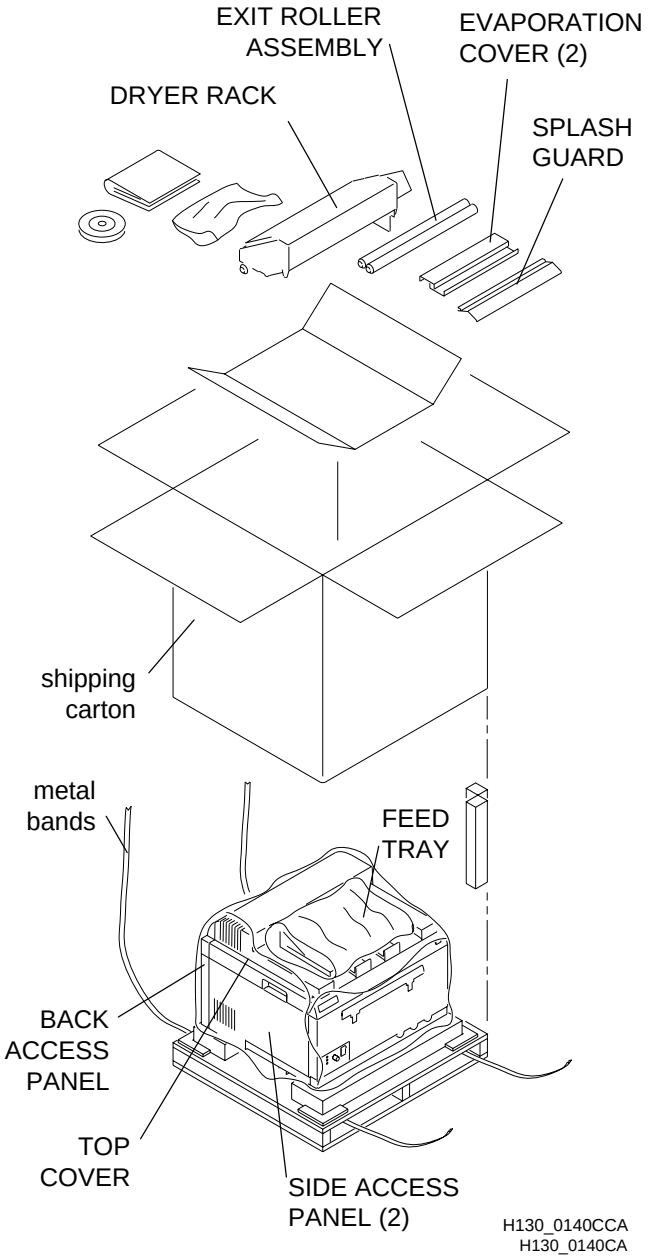
Section 1: Unpacking the PROCESSOR

Figure 1 **Removing the Components**



[1] Cut the metal bands, open the shipping carton, and remove any packing material.

Important

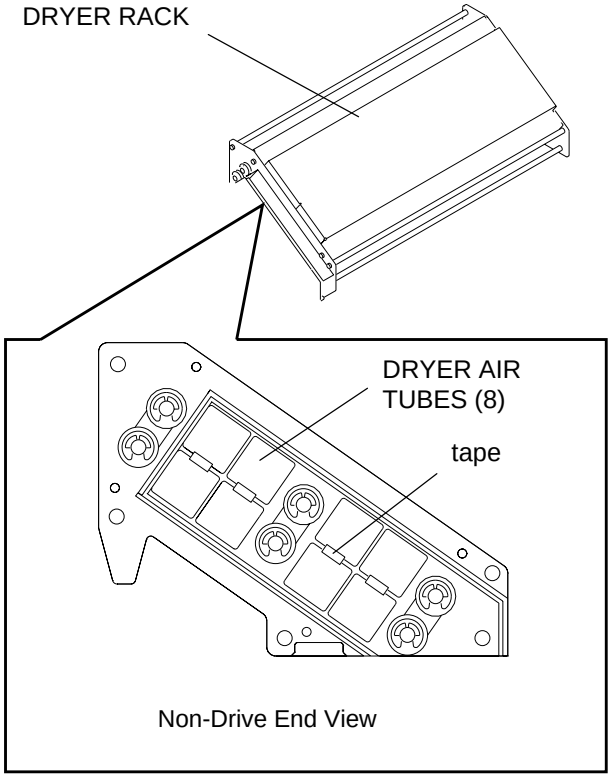
When removing protective packing material or wrapping from components, be careful not to cut through the protective wrapping and damage the component.

[2] Remove the items packed with the PROCESSOR. See publication 1C7052 in the front pocket of your publications binder for a list of the items packed with your PROCESSOR model.

[3] Remove:

- shipping carton from around the PROCESSOR
- any other packing materials
- TOP COVER from the PROCESSOR
- EVAPORATION COVERS for the DEVELOPER and FIXER RACKS
- 2 SIDE ACCESS PANELS and the BACK ACCESS PANEL by loosening the 2 SCREWS securing each PANEL
- POWER CABLE (provided with the M43A only)

Figure 2 **Removing the Tape from the DRYER AIR TUBES**



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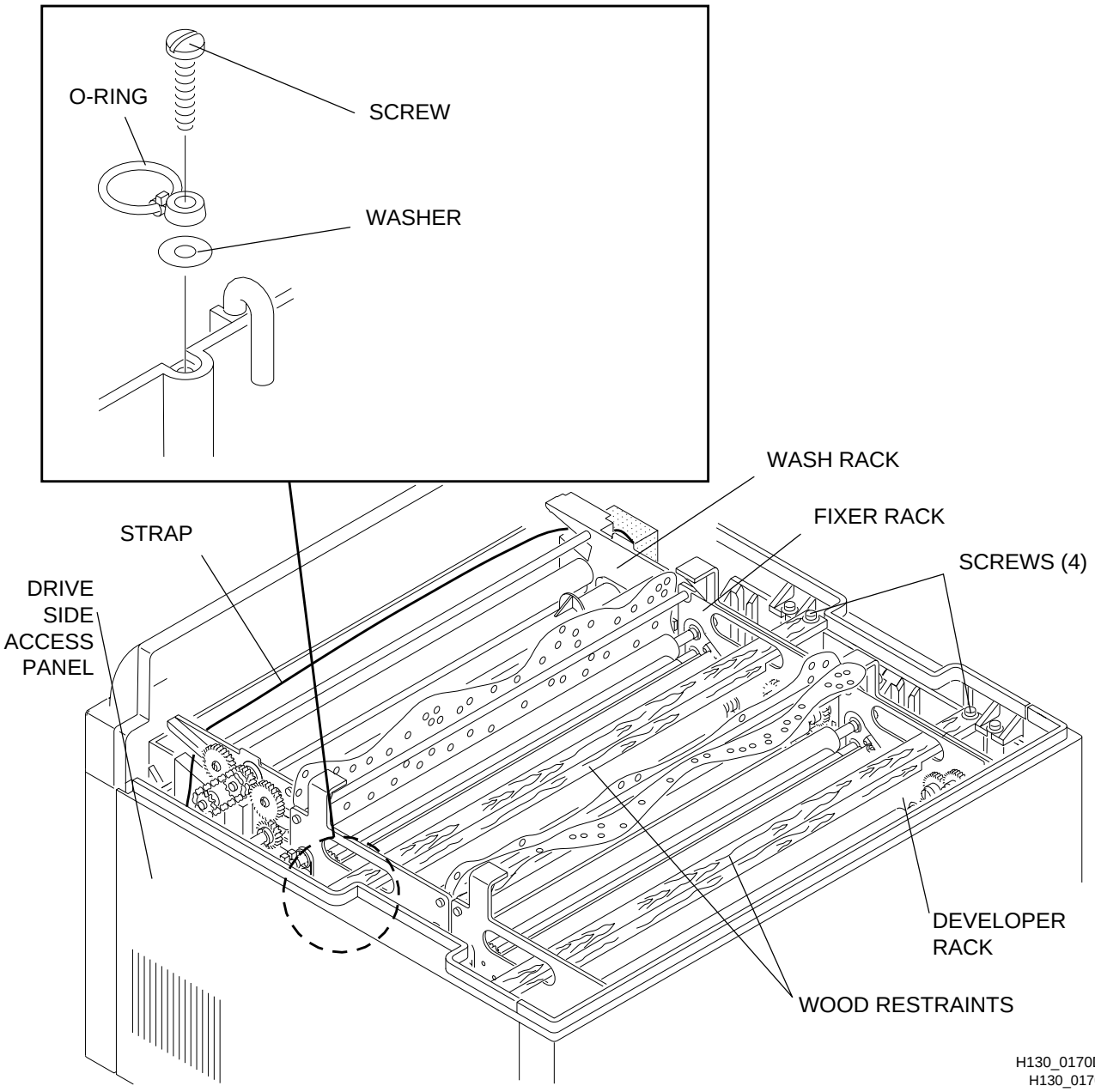
[4] From the DRYER RACK, remove the 8 pieces of tape holding the DRYER AIR TUBES in position.

Figure 3 **Unpacking the RACKS**



[5] Remove the 2 SCREWS securing the WOOD RESTRAINT on the DEVELOPER RACK. Remove the WOOD RESTRAINT from the DEVELOPER RACK.

[6] Remove the 2 SCREWS securing the WOOD RESTRAINT on the FIXER RACK. Remove the WOOD RESTRAINT from the FIXER RACK.

[7] Locate the SCREW hole on the drive side of the PROCESSOR that was used to secure the WOOD RESTRAINT onto the FIXER RACK.

[8] Install the O-RING provided into that hole using the SCREW and WASHER provided. The O-RING will be used in later procedures to enable you to secure the COVER of the ELECTRICAL BOX in the open position. See the figure.

[9] Remove the DEVELOPER and FIXER RACKS and any protective packing material.

[10] Cut and remove the STRAP securing the WASH RACK in place.

[11] Remove any remaining protective packing material.

Section 2: Installing the PROCESSOR

Moving the PROCESSOR to the Work Area

Warning

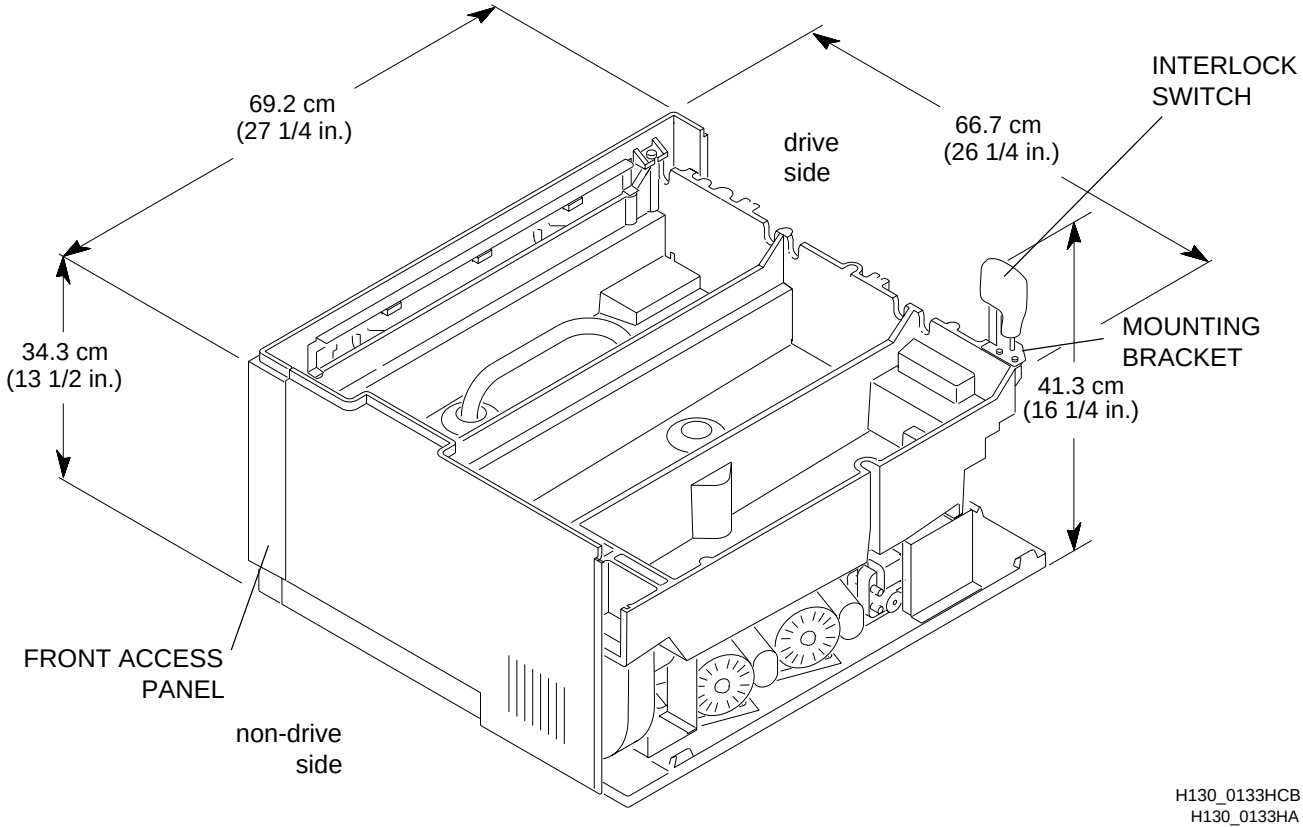
The unpacked, empty PROCESSOR weighs approximately 84 kg (185 lb). Use 2 people to move it. The PUMPS are heavy and are located in the back of the PROCESSOR. Rotate the PROCESSOR so that each person supports ½ the weight of the PROCESSOR.

[1] Move the PROCESSOR to the work area where you plan to install it. When possible move the PROCESSOR in its upright position.

(a) If the PROCESSOR does not fit through the door opening of the work area, do the steps below.

1. Check that the BACK ACCESS PANEL and DRIVE SIDE ACCESS PANEL are removed. If not, loosen the 2 SCREWS on each PANEL and remove the PANEL.
2. Check that the FRONT ACCESS PANEL is installed. The FRONT ACCESS will protect the FILM DETECTOR ASSEMBLY from damage when moving the PROCESSOR through a narrow door opening.
3. To reduce space requirements, check that the LEVELING FEET are rotated up into the PROCESSOR as far as possible.
4. Rotate the PROCESSOR so that the non-drive side faces down. See the figure for the dimensions of the PROCESSOR with the TOP COVER and PANELS removed.
5. To reduce space requirements even more, unscrew the MOUNTING BRACKET for the INTERLOCK SWITCH and let the INTERLOCK SWITCH hang inside the PROCESSOR.

Figure 4 **Moving the PROCESSOR through a Narrow Door Opening**



Important

- Servicing and accessing the PROCESSOR is easiest if you position the PROCESSOR on a *Kodak* M35, M43, Clinic 1 MOUNTING STAND.
- If you will **not** be installing the PROCESSOR on the *Kodak* M35, M43, Clinic 1 MOUNTING STAND, see "Installing the PROCESSOR on a Table Top" on Page 12.
- If you will be installing the PROCESSOR through the darkroom wall, see "Installing the PROCESSOR Through the Wall" on Page 13.

[2] Install the PROCESSOR by following **1 of the 3 procedures** outlined on the following pages:

- on a Table Top — see Page 12
- through the wall — see Page 13
- on the M35, M43, Clinic 1 MOUNTING STAND — see below

[3] If you removed the INTERLOCK SWITCH in Step 1a, do the steps below.

(a) Install:

- SIDE ACCESS PANELS
- FRONT ACCESS PANEL
- TOP COVER

(b) Push the MOUNTING BRACKET forward until the BLADE of the TOP COVER fully engages the INTERLOCK SWITCH. Tighten the 2 SCREWS to secure the BRACKET.

Installing the PROCESSOR on the MOUNTING STAND

[1] Place the PROCESSOR on the MOUNTING STAND with the large holes toward the operator's work area.

Important

If you will be securing the MOUNTING STAND with SEISMIC BRACKETS, ensure that the MOUNTING STAND, on its LEVELING FEET, is no more than 2.5 cm (1 in.) above the floor.

[2] Install the 4 LEVELING FEET and 4 LOCK NUTS on the MOUNTING STAND.

(a) Rotate the LEVELING FEET until the MOUNTING STAND is approximately 2.5 - 3.75 cm (1 - 1½ in.) above the FLOOR.

Important

If you will be securing the MOUNTING STAND with SEISMIC BRACKETS, use the FLOOR PLATES provided with the SEISMIC BRACKET KIT 261413.

[3] Install the FLOOR PLATES under each of the 4 LEVELING FEET of the MOUNTING STAND.

[4] Move the MOUNTING STAND as close to its final position as possible while still maintaining clearance on all sides of the PROCESSOR for access to components.

[5] Check that the MOUNTING STAND is level both front-to-back and side-to-side.

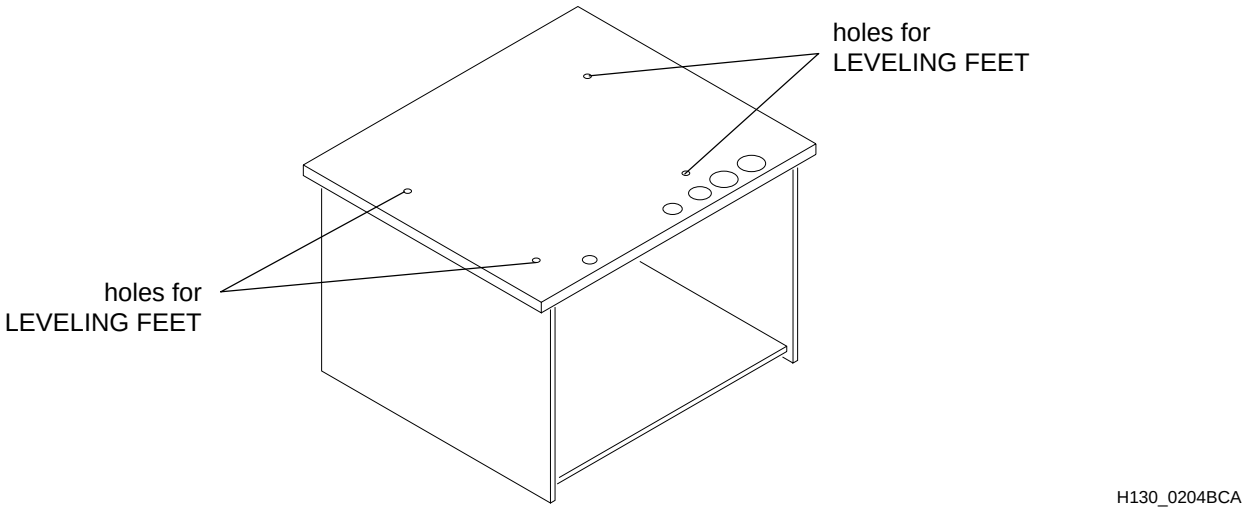
[6] Once the MOUNTING STAND is level, tighten the 4 LOCK NUTS against the base of the MOUNTING STAND to secure its height.

Caution

The empty PROCESSOR weighs approximately 84 kg (185 lb).

[7] Position the PROCESSOR on the MOUNTING STAND. Do not allow the LEVELING FEET to fall into the holes in the TOP of the MOUNTING STAND.

Figure 5 **Using the MOUNTING STAND**



[8] Raise and support the non-feed end of the PROCESSOR to gain access to 2 LEVELING FEET. Use a 5 x 10 cm (2 x 4 in.) piece of wood that is 1 m (3 ft.) long to support the PROCESSOR.

(a) Position the piece of wood so that:

- it supports the entire width of the PROCESSOR (drive side to non-drive side)
- it is closer to the center of the PROCESSOR than to the back

[9] Remove the NUT from each of the 2 non-feed end LEVELING FEET. Keep the NUTS for later installation.

[10] Remove and discard the LEVELING FOOT on the drive side of the PROCESSOR near the REPLENISHMENT PUMP.

[11] Install the 7.6 cm (3½ in.) LEVELING FOOT (packed with the PROCESSOR) in its place. See Figure 6.

[12] Rotate these 2 LEVELING FEET clockwise ↷ until they are fully extended. Use a SOCKET or WRENCH to ensure that the LEVELING FEET are tight.

[13] Position a SPACER on the TOP of the MOUNTING STAND under each of the 2 LEVELING FEET.

Note

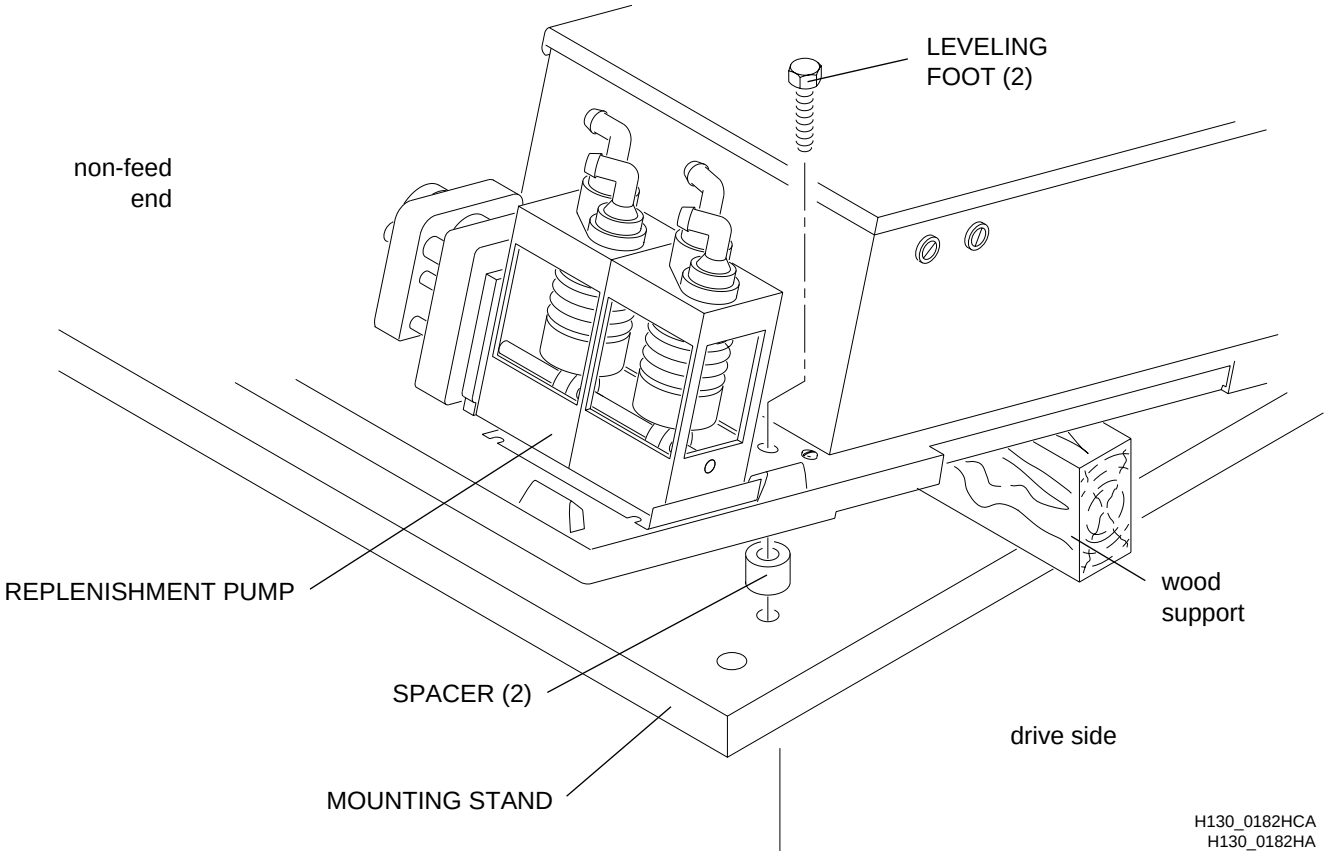
The SPACERS are packed with the MOUNTING STAND.

[14] Lower the raised end of the PROCESSOR by removing the piece of wood supporting it.

[15] Check that the LEVELING FEET are lowered into the SPACERS.

[16] Align the 2 LEVELING FEET and SPACERS with the holes in the TOP of the MOUNTING STAND. Insert the LEVELING FEET through the holes.

Figure 6 **Installing the SPACERS on the Non-Feed End of the PROCESSOR**



[17] Repeat Steps 8, 9, and 12 through 16 for other end, the feed end, of the PROCESSOR.

[18] Check that the PROCESSOR is level.

[19] Install the following parts onto the 4 LEVELING FEET by reaching under the TOP of the MOUNTING STAND:

- 4 WASHERS, provided with the MOUNTING STAND
- 4 NUTS - removed in Step 9

[20] Advance to the appropriate section as outlined below.

(a) If you are installing an M43A or Clinic 1 PROCESSOR for 60 Hz operation, advance to the section “PROCESSOR Setup Options” on Page 35.

(b) If you are installing an M43A PROCESSOR for 50 Hz operation, advance to the section “Changing the PROCESSOR to 50 or 60 Hz Operation” on Page 32.

Installing the PROCESSOR on a Table Top

Warning

The unpacked, empty PROCESSOR weighs approximately 84 kg (185 lb). Use 2 people to move it. The PUMPS are heavy and are located in the back of the PROCESSOR. Rotate the PROCESSOR so that each person supports ½ the weight of the PROCESSOR.

[1] Check that the work surface is capable of supporting a minimum of 113 kg (250 lb).

[2] Place the PROCESSOR on the work surface with the FRONT ACCESS PANEL facing the operator's work area.

(a) Check that all 4 LEVELING FEET are supported.

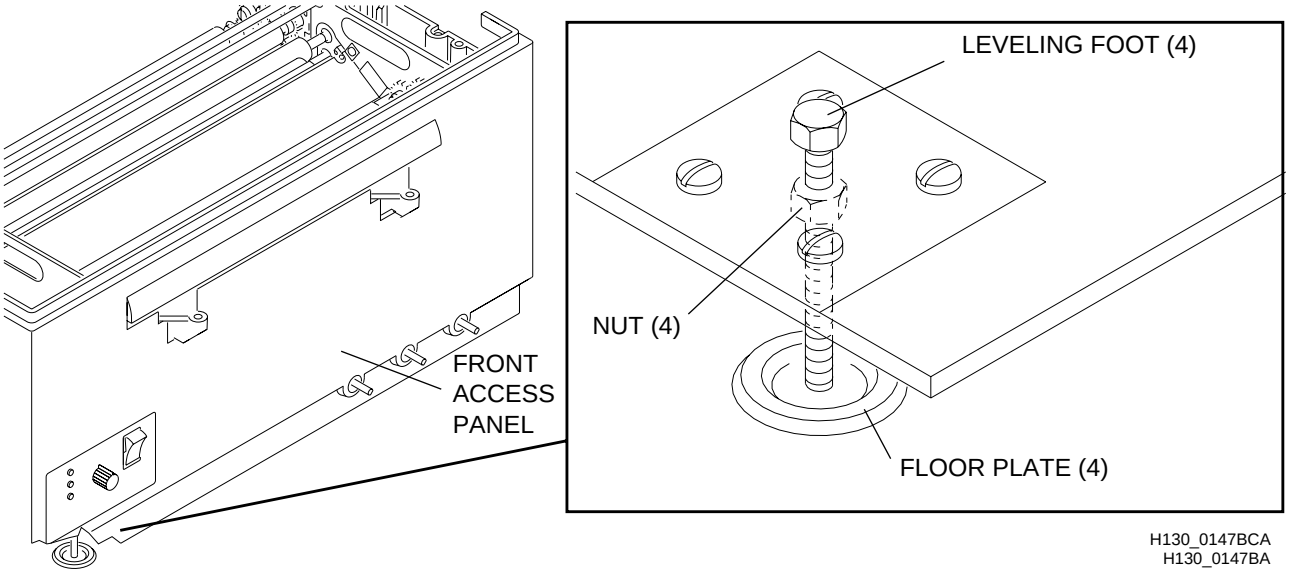
(b) Refer to the Site Specifications, Publication Number 981087, to check that you have room to access:

- the front of the PROCESSOR
- the ELECTRICAL BOX on the drive side of the PROCESSOR

[3] Locate the 4 FLOOR PLATES packed with the PROCESSOR.

[4] Insert the 4 FLOOR PLATES under the 4 LEVELING FEET of the PROCESSOR.

Figure 7 **Installing the FLOOR PLATES**



[5] Advance to the appropriate section as outlined below.

(a) If you are installing an M43A or Clinic 1 PROCESSOR for 60 Hz operation, advance to the section "PROCESSOR Setup Options" on Page 35.

(b) If you are installing an M43A PROCESSOR for 50 Hz operation, advance to the section "Changing the PROCESSOR to 50 or 60 Hz Operation" on Page 32.

Installing the PROCESSOR Through the Wall

Note

- These instructions assume that you are setting the PROCESSOR on a *Kodak* M35, M43, and Clinic 1 MOUNTING STAND.
- The *Kodak X-Omat* M43 Through-the-Wall Kit, CAT No. 871-3109, is available and includes:

Qty	Item
1	FOAM BLOCK, LIGHT LOCK
2	FOAM GASKET, LIGHT LOCK
6	HOSE CLAMPS #12 for DRAINS
4	HOSE CLAMPS #2 for REPLENISHMENT HOSES
2	HOSE, Opaque, ⅜ in. ID, 3 ft., for REPLENISHMENT HOSES
3	HOSE, Opaque, ¾ in. ID, 4 ft., for DRAINS
2	FITTING, Barbed, ⅜ in., for REPLENISHMENT HOSES
2	EYEBOLTS
2	NUTS for EYEBOLTS
3	FITTING, Barbed, ¾ in., for DRAINS
2	WASHERS for LEVELING FEET
2	WASHERS for EYEBOLTS

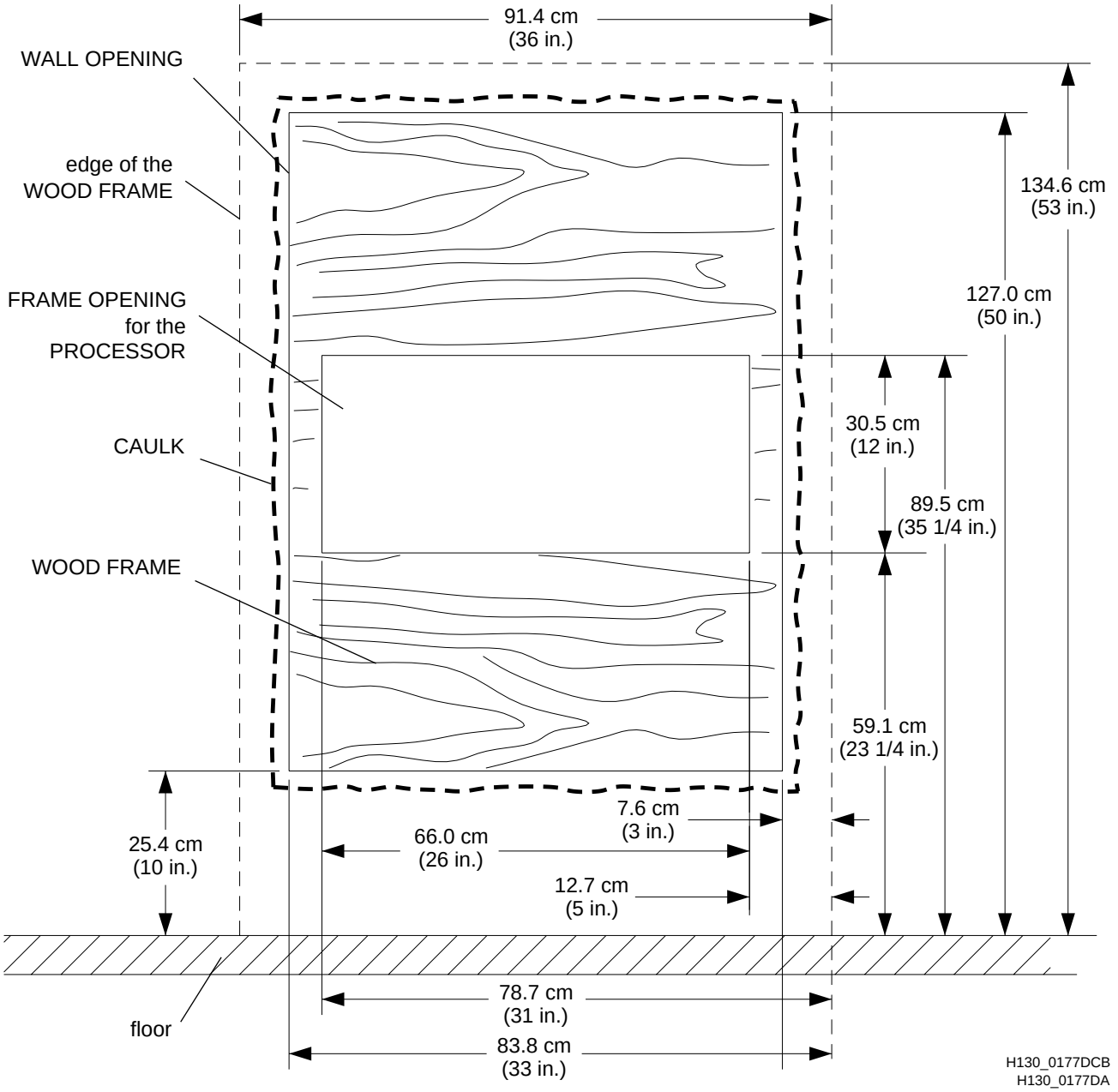
Planning the Site

[1] Check that the dimensions and location of the hole in the wall match the WALL OPENING in Figure 8 on Page 14.

[2] Determine the other requirements of your site, such as the location of these items:

- FLOOR DRAIN
- REPLENISHMENT TANKS
  - If the REPLENISHMENT TANKS are to be located outside the darkroom, decide whether you will locate them inside the MOUNTING STAND or outside the MOUNTING STAND.
- main water supply VALVE
- main power supply CIRCUIT BREAKER, which should be located:
  - outside of the darkroom
  - within sight of the PROCESSOR and be accessible by the operators and service personnel

Figure 8 **Checking the Dimensions of the Hole in the Wall, as viewed from the darkroom side**



Preparing the MOUNTING STAND

[3] Install on the MOUNTING STAND the 4 LEVELING FEET and 4 LOCK NUTS that were packed with the MOUNTING STAND.

Important

If you will be securing the MOUNTING STAND with SEISMIC BRACKETS, ensure that the LEVELING FEET extend past the bottom of the MOUNTING STAND by no more than 2.5 cm (1 in.).

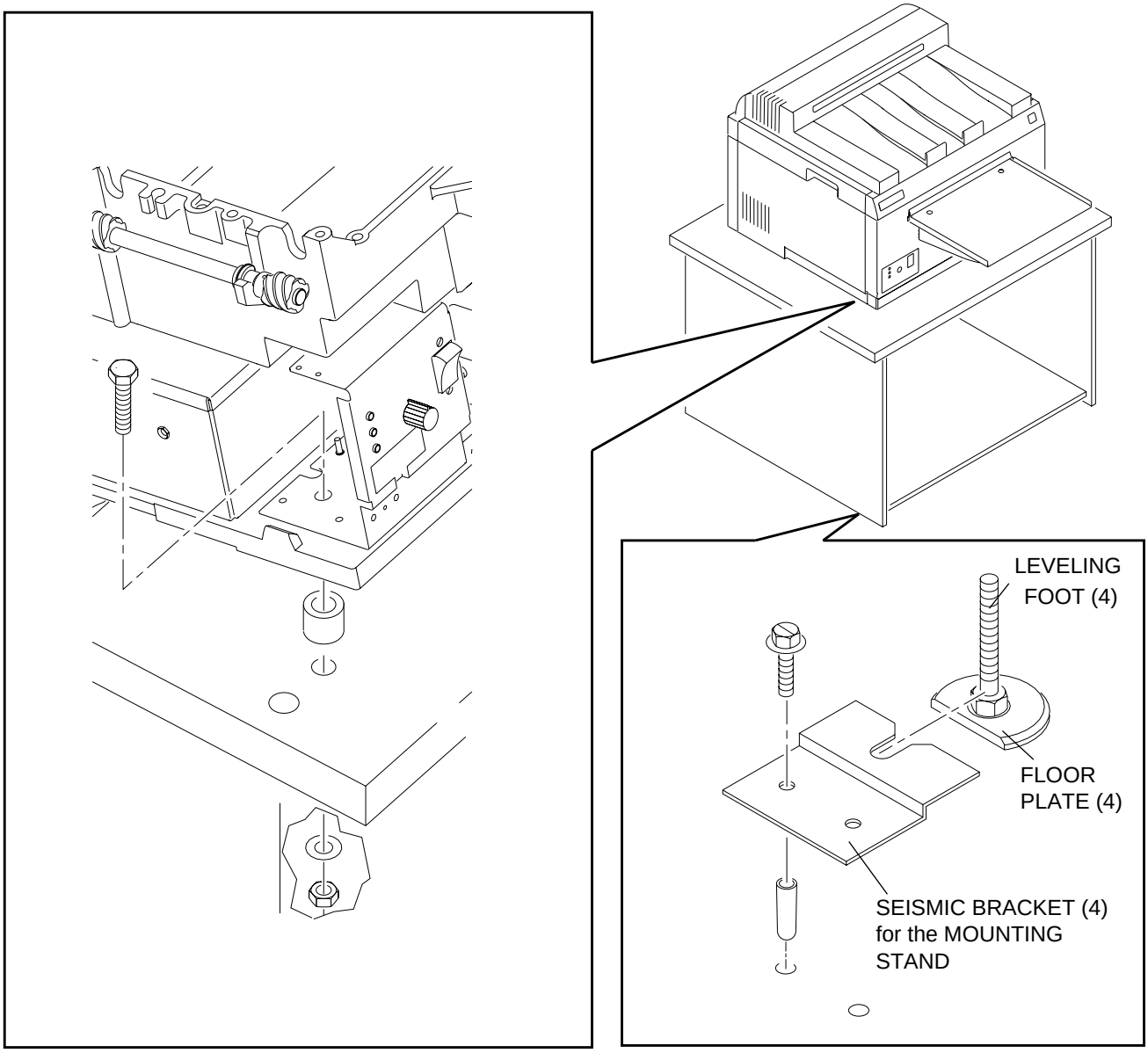
[4] Rotate the LEVELING FEET until the FEET extend past the MOUNTING STAND by 3.75 cm (1½ in.).

Important

If you will be securing the MOUNTING STAND with SEISMIC BRACKETS, place the 4 FLOOR PLATES provided with the SEISMIC BRACKET KIT 261413 under the 4 LEVELING FEET of the MOUNTING STAND.

[5] Install the 4 FLOOR PLATES under the 4 LEVELING FEET of the MOUNTING STAND.

Figure 9 **Installing FLOOR PLATES under the MOUNTING STAND**



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Note

The TOP of the MOUNTING STAND has holes cut in one end to allow for the routing of HOSES and the POWER CABLE. In through-the-wall installations, these holes must be positioned against the wall. If the REPLENISHMENT TANKS will be stored inside the MOUNTING STAND, you must remove the TOP of the MOUNTING STAND and rotate it 180°, as described in Step 6 below. In all other cases, you can use the MOUNTING STAND as it was shipped.

[6] Check that the TOP of the MOUNTING STAND is positioned correctly to allow for the routing of the HOSES and the POWER CABLE. If the REPLENISHMENT TANKS will be stored inside the MOUNTING STAND, do the following steps.

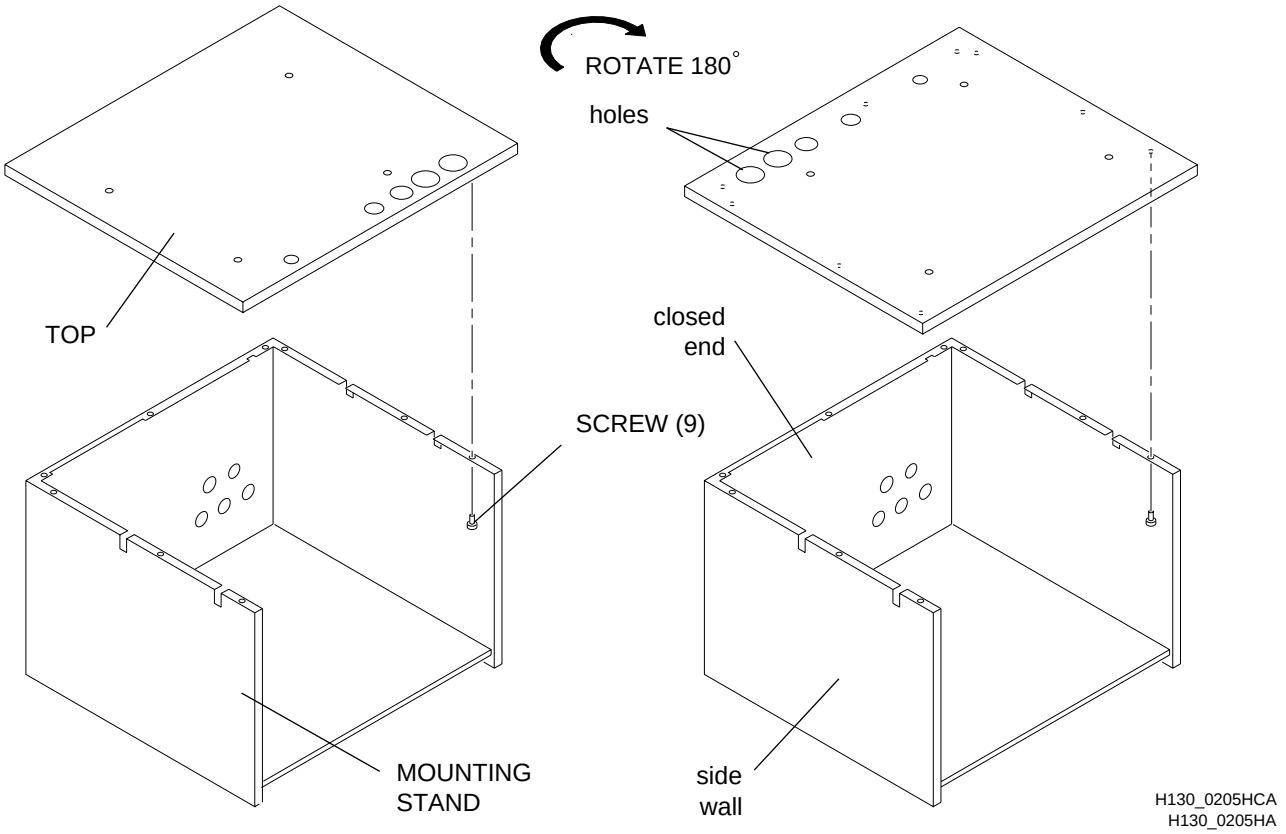
(a) Remove the 9 SCREWS securing the TOP of the MOUNTING STAND.

(b) Rotate the TOP 180° so that the holes are at the closed end of the MOUNTING STAND.

(c) Check that the TOP of the MOUNTING STAND is flush with the closed end of the MOUNTING STAND.

(d) Install the 9 SCREWS in the second set of pre-drilled holes on the under side of the TOP of the MOUNTING STAND.

Figure 10 **Rotating the TOP of the MOUNTING STAND**



Positioning the PROCESSOR on the MOUNTING STAND

Warning

The unpacked, empty PROCESSOR weighs approximately 84 kg (185 lb). Use 2 people to move it. The PUMPS are heavy and are located in the back of the PROCESSOR. Rotate the PROCESSOR so that each person supports ½ the weight of the PROCESSOR.

[7] Move the MOUNTING STAND near the wall while still maintaining clearance on all 4 sides of the PROCESSOR for access to components.

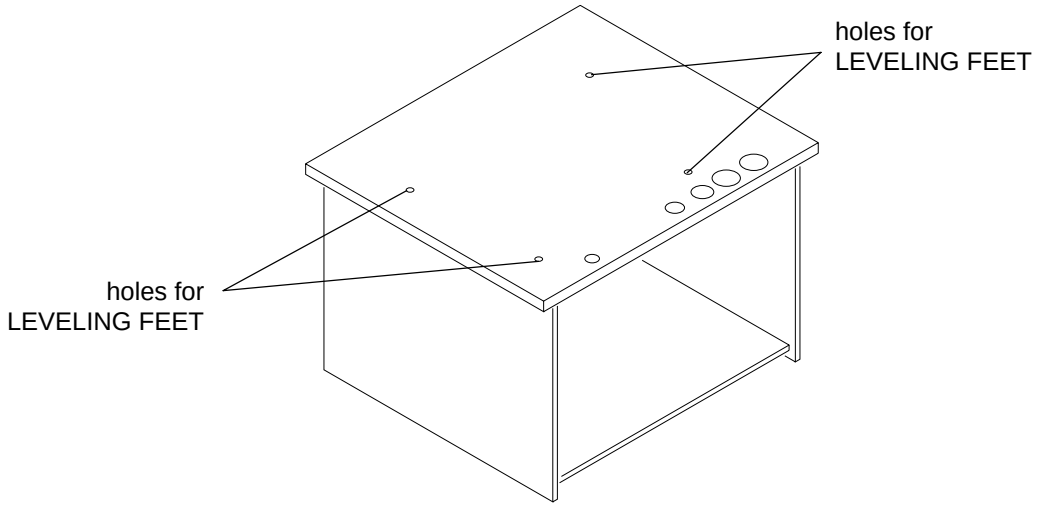
(a) Check that the MOUNTING STAND is positioned so that the large holes in the top are toward the wall.

Caution

The empty PROCESSOR weighs approximately 84 kg (185 lb).

[8] Position the PROCESSOR on the MOUNTING STAND with the feed-end towards the wall. Do not allow the LEVELING FEET **to fall into** the holes in the TOP of the MOUNTING STAND.

Figure 11 **Positioning the PROCESSOR on the MOUNTING STAND**



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[9] Check that the following parts are removed from the PROCESSOR.

- TOP COVER
- BACK ACCESS PANEL
- FRONT ACCESS PANEL
- DRIVE SIDE ACCESS PANEL
- NON-DRIVE SIDE ACCESS PANEL

[10] Raise and support the non-feed end of the PROCESSOR to gain access to the 2 LEVELING FEET. Use a 5 x 10 cm (2 x 4 in.) piece of wood that is 1 m (3 ft.) long to support the PROCESSOR.

(a) Position the piece of wood so that:

- it supports the entire width of the PROCESSOR (drive side to non-drive side)
- it is closer to the center of the PROCESSOR than to the back

[11] Remove the NUT from each of the 2 non-feed end LEVELING FEET. Keep the NUTS for later installation.

[12] Remove and discard the LEVELING FOOT on the drive side of the PROCESSOR near the REPLENISHMENT PUMP. See the Figure 11.

[13] Install the 7.6 cm (3½ in.) LEVELING FOOT provided with the PROCESSOR.

[14] Rotate these 2 LEVELING FEET clockwise ↷ until they are fully extended. Use a SOCKET or WRENCH to ensure that the LEVELING FEET are tight.

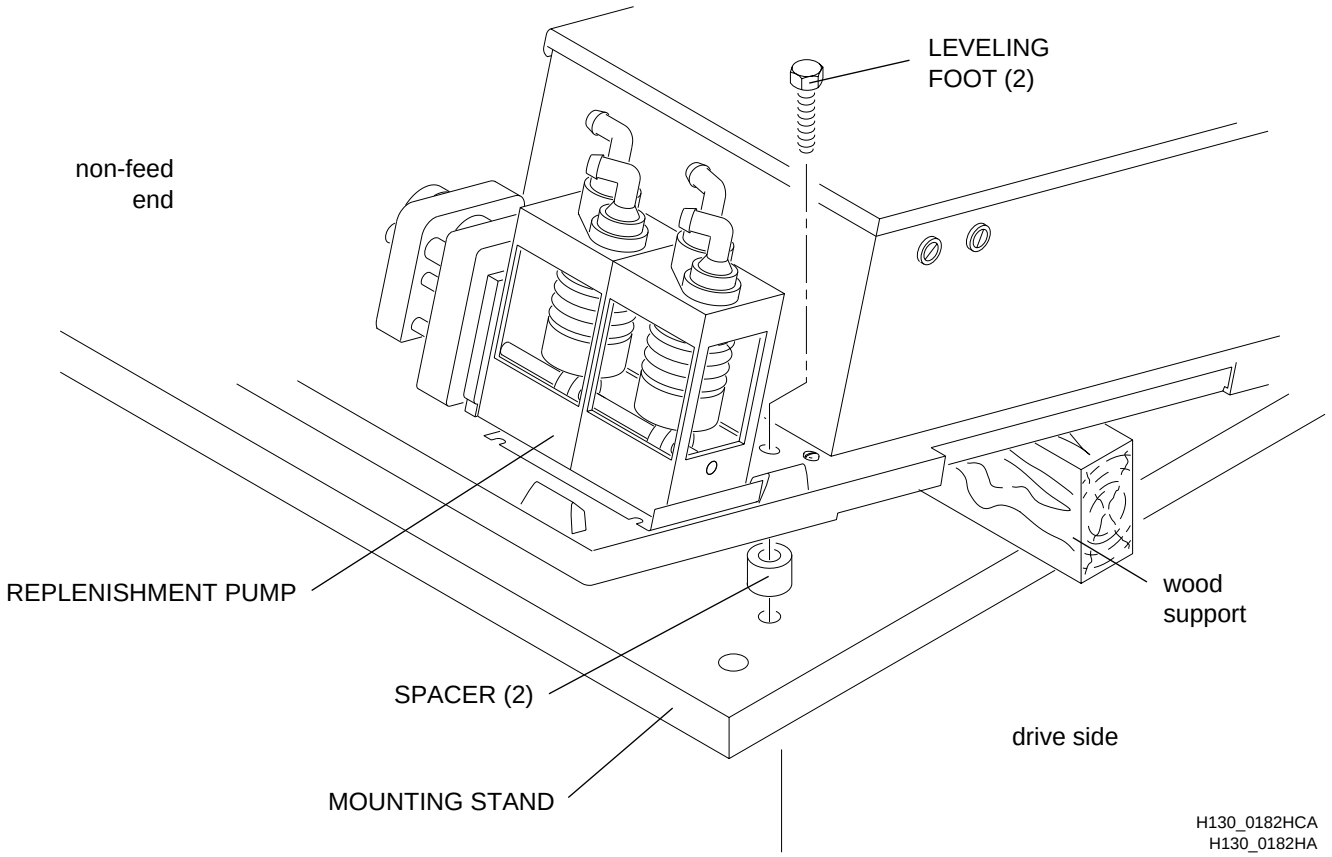
[15] Position a SPACER, provided with the MOUNTING STAND, on the TOP of the MOUNTING STAND under each of the 2 LEVELING FEET.

[16] Lower the raised end of the PROCESSOR by removing the piece of wood supporting it.

[17] Check that the LEVELING FEET are lowered into the SPACERS.

[18] Align the 2 LEVELING FEET and SPACERS with the holes in the TOP of the MOUNTING STAND. Position the LEVELING FEET through the holes.

Figure 12 **Installing the SPACERS and Replacing one LEVELING FOOT on the Non-Feed End of the PROCESSOR**



[19] Raise and support the feed end of the PROCESSOR to gain access to the other 2 LEVELING FEET. Use a 5 x 10 cm (2 x 4 in.) piece of wood that is 1 m (3 ft.) long to support the PROCESSOR.

(a) Position the piece of wood so that:

- it supports the entire width of the PROCESSOR (drive side to non-drive side)
- it is closer to the center of the PROCESSOR than to the front

[20] Remove the NUT from each of the 2 feed-end LEVELING FEET. Keep the NUTS for later installation.

[21] Rotate these 2 LEVELING FEET clockwise ↷ until they are fully extended. Use a SOCKET or WRENCH to ensure that the LEVELING FEET are tight.

[22] Insert the HOSES listed below through the holes in the TOP of the MOUNTING STAND:

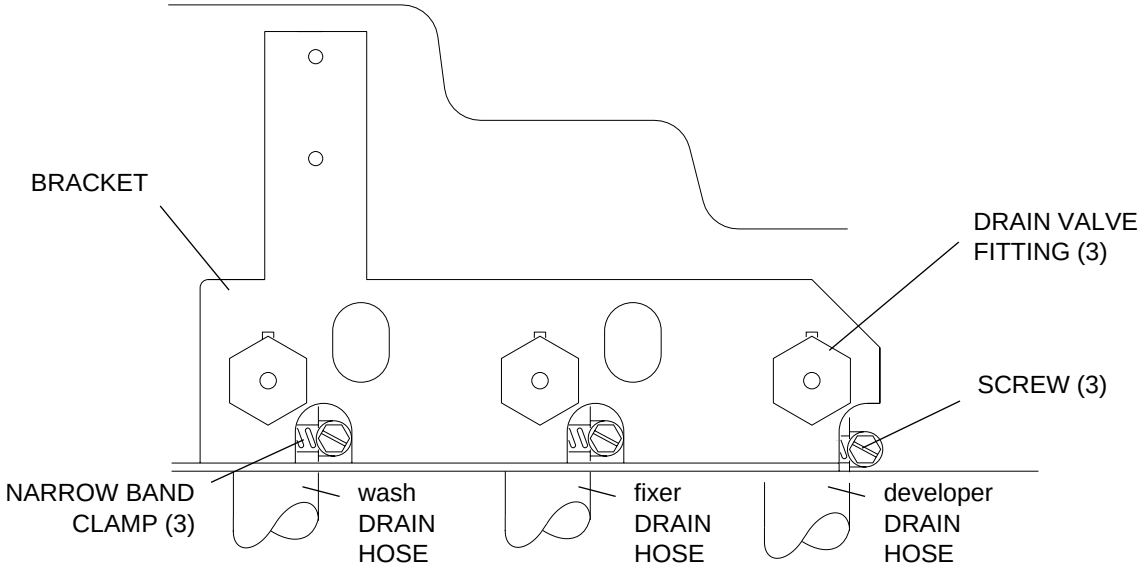
- 3 DRAIN HOSES
  - Use black, opaque DRAIN HOSES if they are going through the wall
  - Use clear DRAIN HOSES if draining outside of the darkroom
- a HOSE from the main water supply, not provided

[23] Connect the 3 DRAIN HOSES to the 3 DRAIN VALVE FITTINGS.

(a) Position the CLAMPS, provided in the prepack, so that you can access the SCREWS by inserting a SCREWDRIVER through the notches in the BRACKET.

(b) Insert the 3 DRAIN HOSES under the 3 NARROW BAND CLAMPS and tighten the 3 SCREWS of the CLAMPS.

Figure 13 **Connecting the DRAIN HOSES**



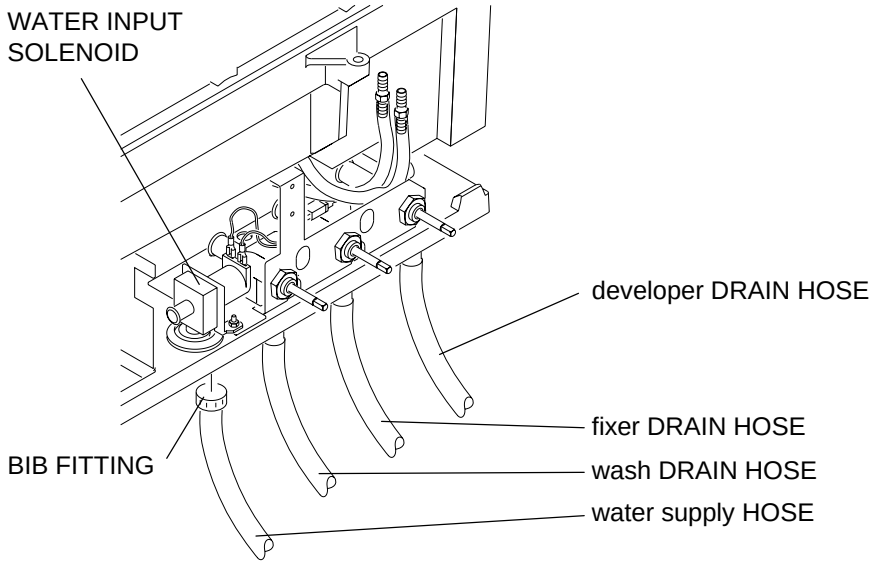
[24] For an M43 PROCESSOR only, install the HOSE ADAPTER and WASHER packed with the PROCESSOR to the bottom of the WATER INPUT SOLENOID.

[25] Use a standard 5/8 in. NHT HOSE BIB FITTING to connect the HOSE from the main water supply to the under side of the WATER INPUT SOLENOID.

Note

If you are routing a water supply HOSE under the PROCESSOR, you will need a 90° fitting, not provided, at the WATER INPUT SOLENOID connection.

Figure 14 **Connecting the DRAIN HOSES and the HOSE from the Main Water Supply**



Important

Read the following steps carefully. Determine whether you need to route the REPLENISHMENT HOSES and the POWER CABLE through the darkroom wall. Do only the steps that are appropriate for your installation requirements. It is not recommended to route the POWER CABLE through the wall.

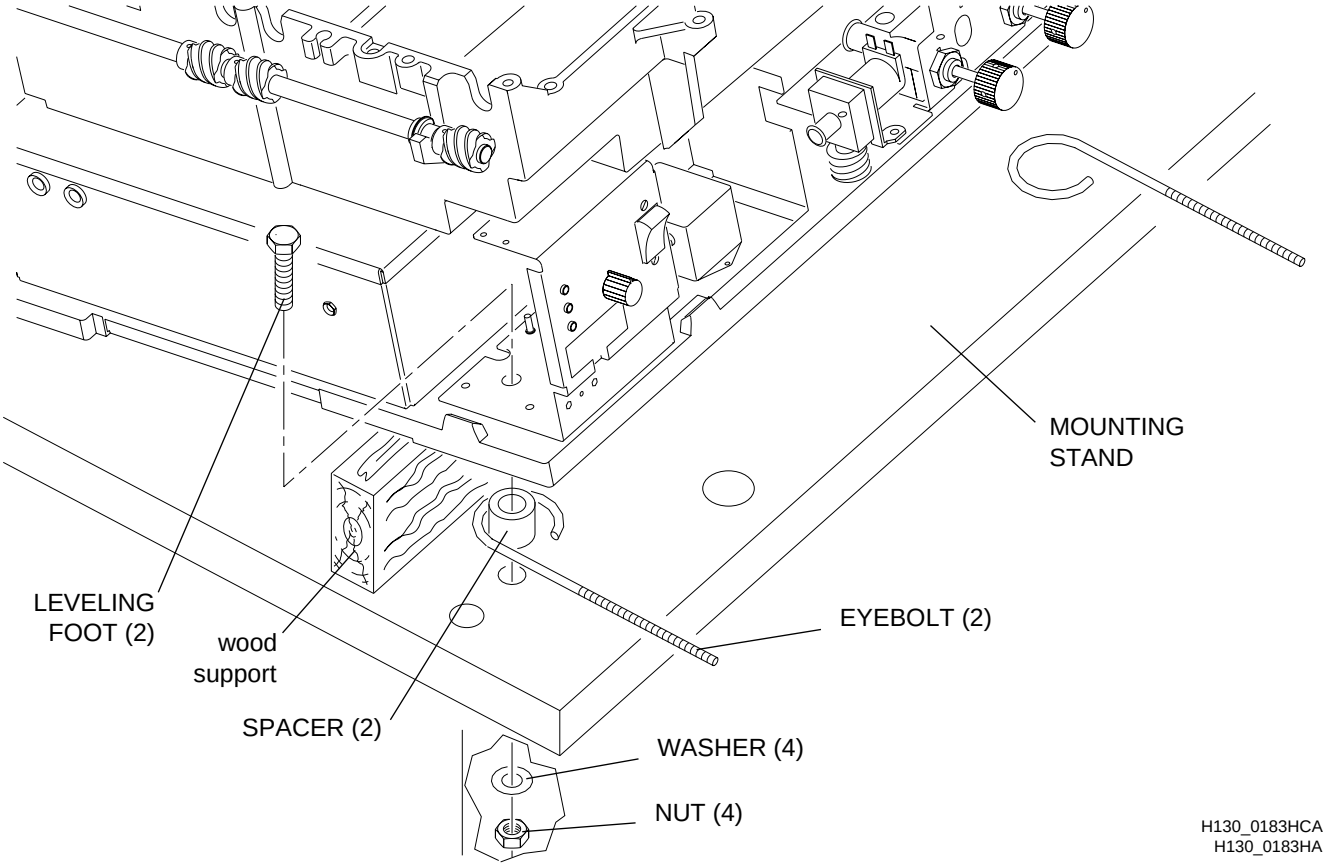
[26] Route the developer REPLENISHMENT HOSE, identified by the red WIRE TIE, through the hole under the developer DRAIN VALVE.

[27] Route the fixer REPLENISHMENT HOSE, identified by the blue WIRE TIE, through the hole under the fixer DRAIN VALVE.

[28] Position a SPACER on the TOP of the MOUNTING STAND under each of the 2 LEVELING FEET.

[29] Position a EYEBOLT over each SPACER. See the figure for the correct orientation of the EYEBOLTS.

Figure 15 **Installing the EYEBOLTS**



[30] Lower the raised end of the PROCESSOR by removing the piece of wood supporting it.

[31] Check that the LEVELING FEET are lowered into the SPACERS.

[32] Align the 2 LEVELING FEET and SPACERS with the holes in the TOP of the MOUNTING STAND. Position the LEVELING FEET through the holes.

[33] Install the following parts onto the 4 LEVELING FEET by reaching under the TOP of the MOUNTING STAND:

- 4 WASHERS, provided with the MOUNTING STAND
- 4 NUTS, removed in Steps 11 and 20

Preparing the WOOD FRAME

Note

This procedure may be easier to do if you mount the WOOD FRAME to the wall before you cut the opening and drill the holes. However, if you wish, you may cut the opening and drill the holes before you mount the WOOD FRAME to the wall.

[34] Check that the dimensions and location of the opening cut in the wall are correct. See the figure below for the correct dimensions.

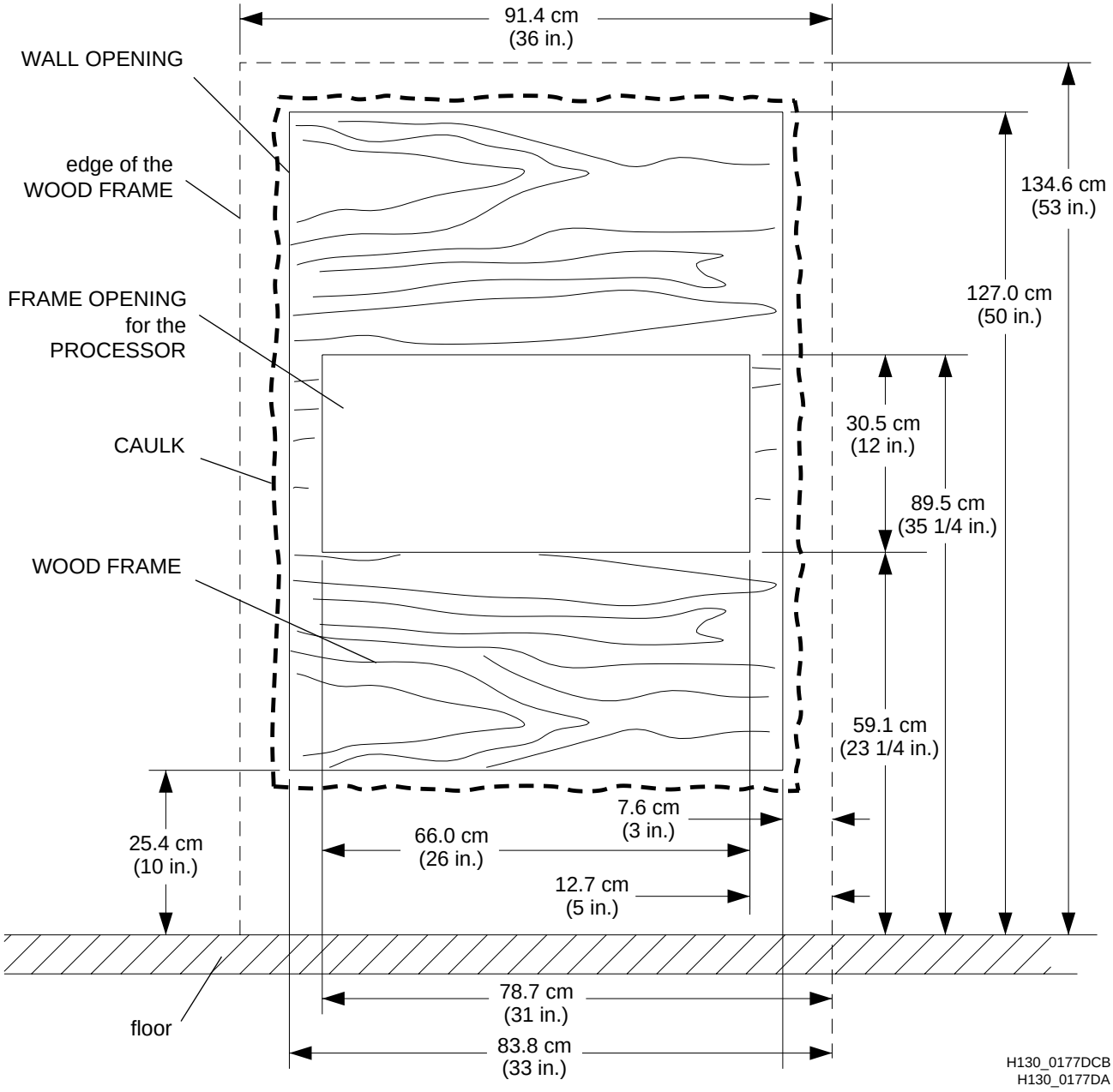
[35] Apply lighttight CAULK to the wall around the WALL OPENING on the outside of the darkroom.

[36] Mount the WOOD FRAME **securely** to the wall.

[37] Cut an opening in the WOOD FRAME for the PROCESSOR. See the figure for the correct dimensions of the hole.

[38] If there is no need for connections through the WOOD FRAME, go to section "Installing the GASKET on the WOOD FRAME" on Page 23.

Figure 16 **Preparing the WOOD FRAME, as viewed from the darkroom side**



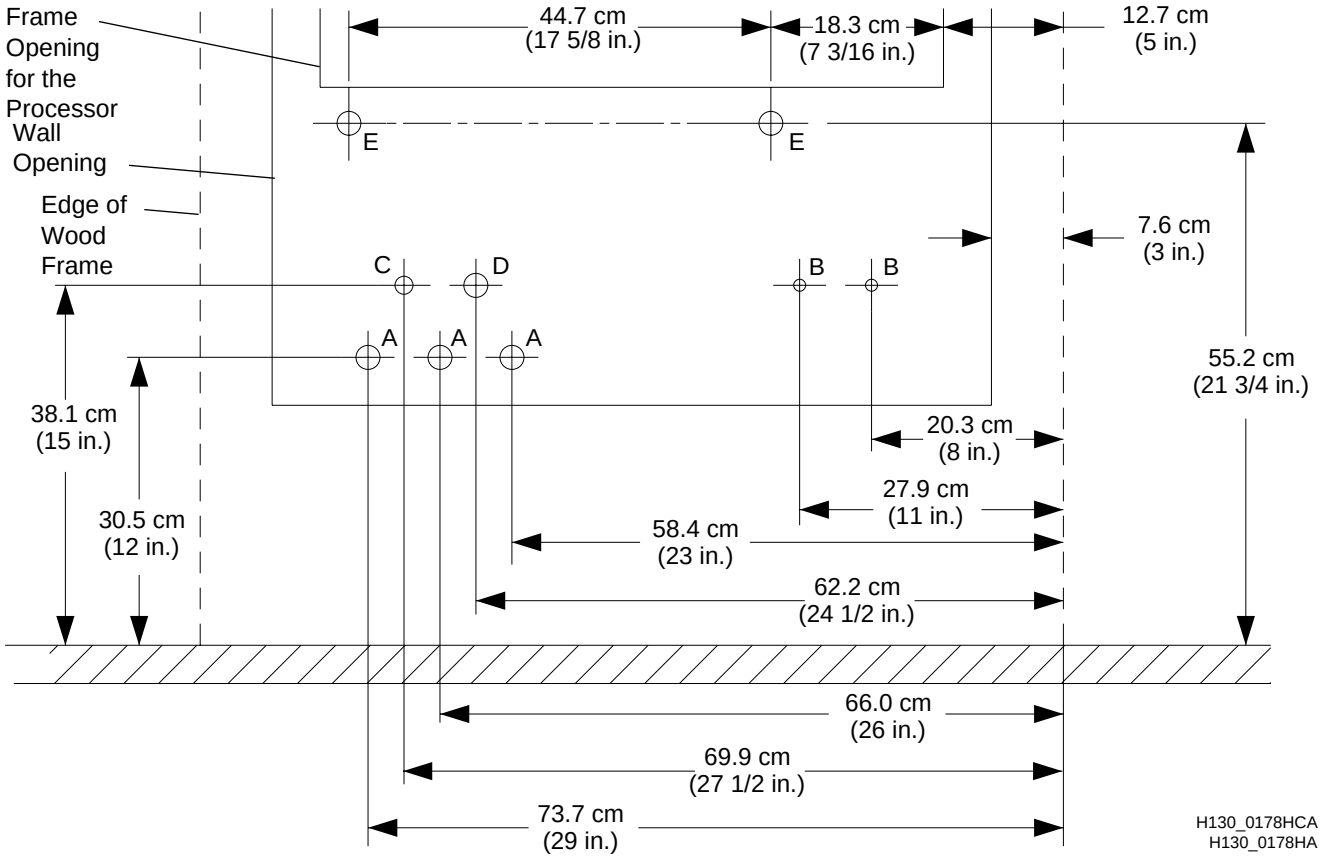
[39] If you need to make connections through the WOOD FRAME, mark the location of the necessary holes on the WOOD FRAME. Depending on how you plan to route the HOSES and CABLE, you will need to cut some or all of the following holes in the WOOD FRAME. See the figure below for the correct locations of the holes.

[40] Drill the necessary holes in the WOOD FRAME.

		Tanks Inside Darkroom		Tanks Outside Darkroom	
Hole	**Description**	**Diameter**	**Quantity**	**Diameter**	
A	DRAIN HOSES	1 in.	3	1 ⅛ in.	3
B	REPLENISHMENT HOSES	½ in.	2	—	—
C	POWER CABLE*	As Needed	1	As Needed	1
D	WATER INPUT HOSE	As Needed	1	As Needed	1
E	EYEBOLTS	¼ in.	2	¼ in.	2

* Routing the POWER CABLE through the wall is not the recommended installation.

Figure 17 **Preparing the Holes in the WOOD FRAME, as viewed from the darkroom side**



Installing the GASKET on the WOOD FRAME

[41] Cut the foam GASKET to fit around the edges of the hole cut in the WOOD FRAME for the PROCESSOR.

[42] Install the GASKET on the PROCESSOR side of the WOOD FRAME around the perimeter of the hole. See the figure for the correct location of the GASKET.

[43] Check that there are no gaps in the GASKET.

[44] Cut another piece of GASKET the dimension of the front of the PROCESSOR.

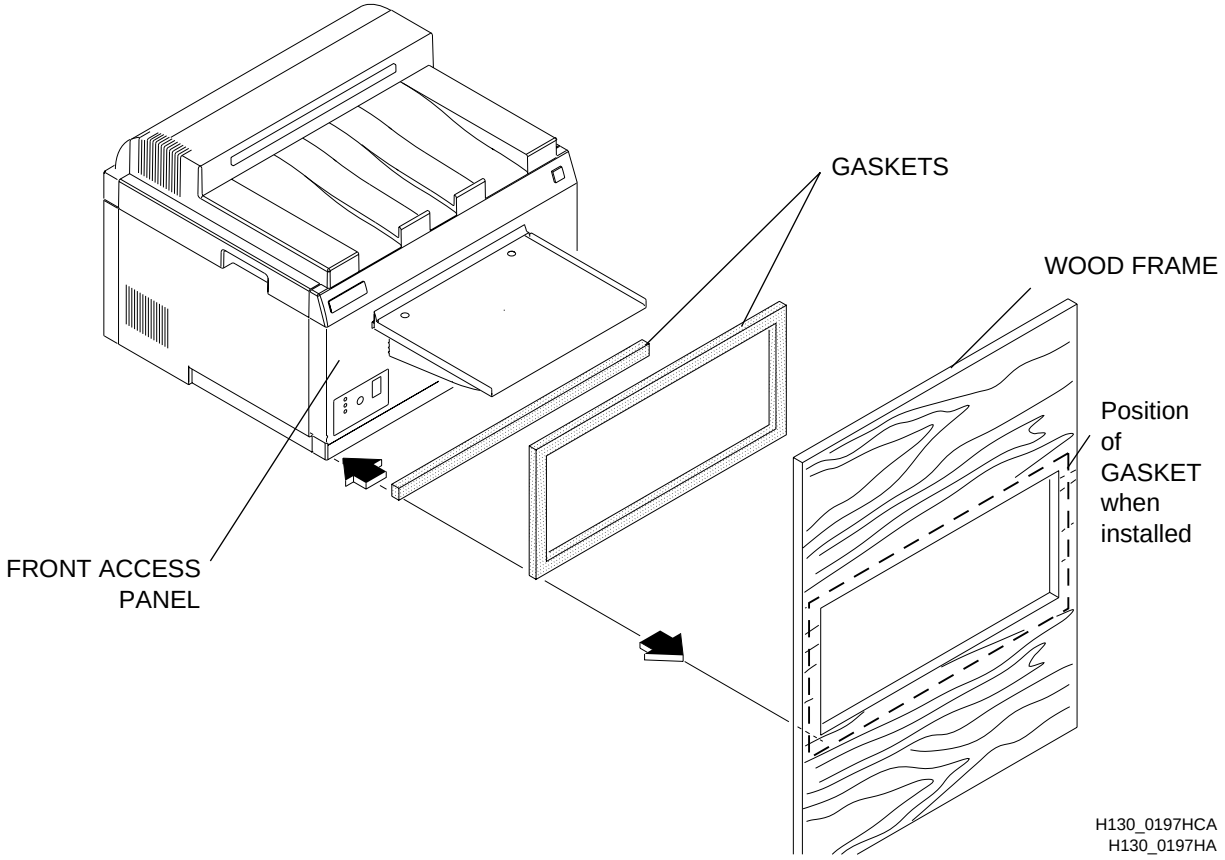
[45] Install the GASKET on the PROCESSOR along the bottom edge of the FRONT ACCESS PANEL.

Important

Additional GASKETS may be necessary in some installations:

- where the wall is not plumb
- if using a LIGHTTIGHT FEED TRAY

Figure 18 **Installing the GASKETS**

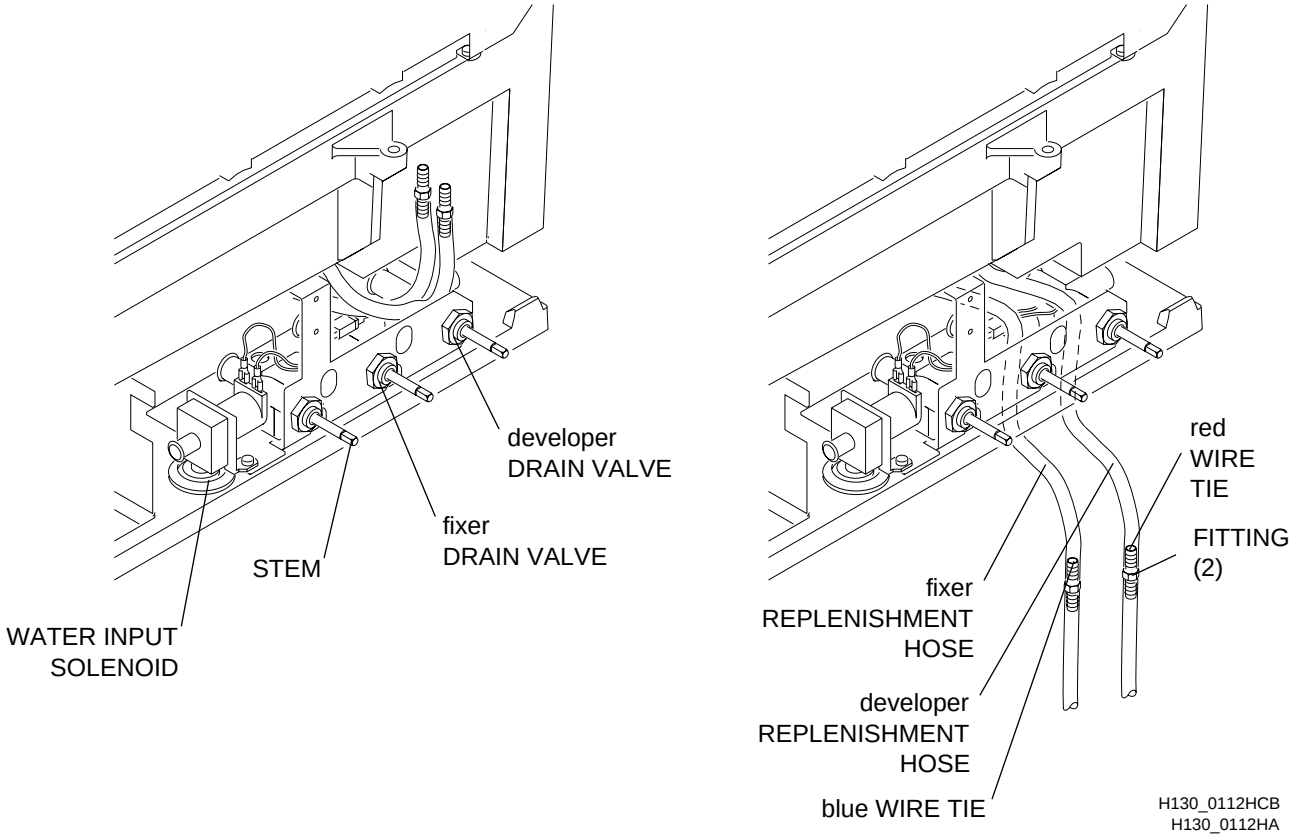


Routing the REPLENISHMENT HOSES

If the REPLENISHMENT TANKS are inside the darkroom, you need to route the REPLENISHMENT HOSES through the darkroom wall. Do Steps 46 through 48. If you do not need to route the REPLENISHMENT HOSES through the darkroom wall, advance to Step 49 on Page 25.

[46] Connect the 2 black, opaque 3⁄8 in. REPLENISHMENT HOSES provided in the THROUGH-THE-WALL KIT to the clear REPLENISHMENT HOSES coming from the PROCESSOR.

Figure 19 **Connecting the REPLENISHMENT HOSES**



Note

When routing the HOSES through the MOUNTING STAND:

- check that you do not interchange the position of the HOSES between where they enter the MOUNTING STAND and where they pass through the wall
- install the REPLENISHMENT HOSES **with slack** in the HOSES
- note that the developer REPLENISHMENT HOSE has a **red** WIRE TIE for easy identification
- note that the fixer REPLENISHMENT HOSE has a **blue** WIRE TIE for easy identification
- install the DRAIN HOSES **without slack** in the HOSES

[47] Route the following HOSES through the holes in WOOD FRAME, as needed:

- 3 DRAIN HOSES
- HOSE from the main water supply
- 2 REPLENISHMENT HOSES

[48] If you do not need to route the REPLENISHMENT HOSES through the darkroom wall, continue with the steps below Otherwise, advance to Step 51 on Page 25.

Note

When connecting the REPLENISHMENT HOSES to the REPLENISHMENT TANKS, install the STRAINER ASSEMBLIES onto the REPLENISHMENT HOSES near the REPLENISHMENT TANKS.

[49] Use the parts from the THROUGH-THE-WALL KIT listed below to route the REPLENISHMENT HOSES to the REPLENISHMENT TANKS.

- 2 REPLENISHMENT HOSES - 3⁄8 in. ID
- 2 REPLENISHMENT HOSE FITTINGS - 3⁄8 in. Barbed
- 2 REPLENISHMENT HOSE CLAMPS - 1⁄2 in.

(a) If the REPLENISHMENT TANKS are located **in the MOUNTING STAND**, connect the 2 REPLENISHMENT HOSES to the 2 REPLENISHMENT TANKS.

(b) If the REPLENISHMENT TANKS will be stored **outside the MOUNTING STAND and outside the darkroom**, route the REPLENISHMENT HOSES from the PROCESSOR, under the sides of the MOUNTING STAND, and to the REPLENISHMENT TANKS.

(c) If the REPLENISHMENT TANKS are located **in the darkroom**, do the steps below.

Rotate the MOUNTING STAND so that the **open end** of the STAND is positioned against the darkroom wall.

Route the HOSES and POWER CABLE through the open end of the MOUNTING STAND and through the holes in the WOOD FRAME.

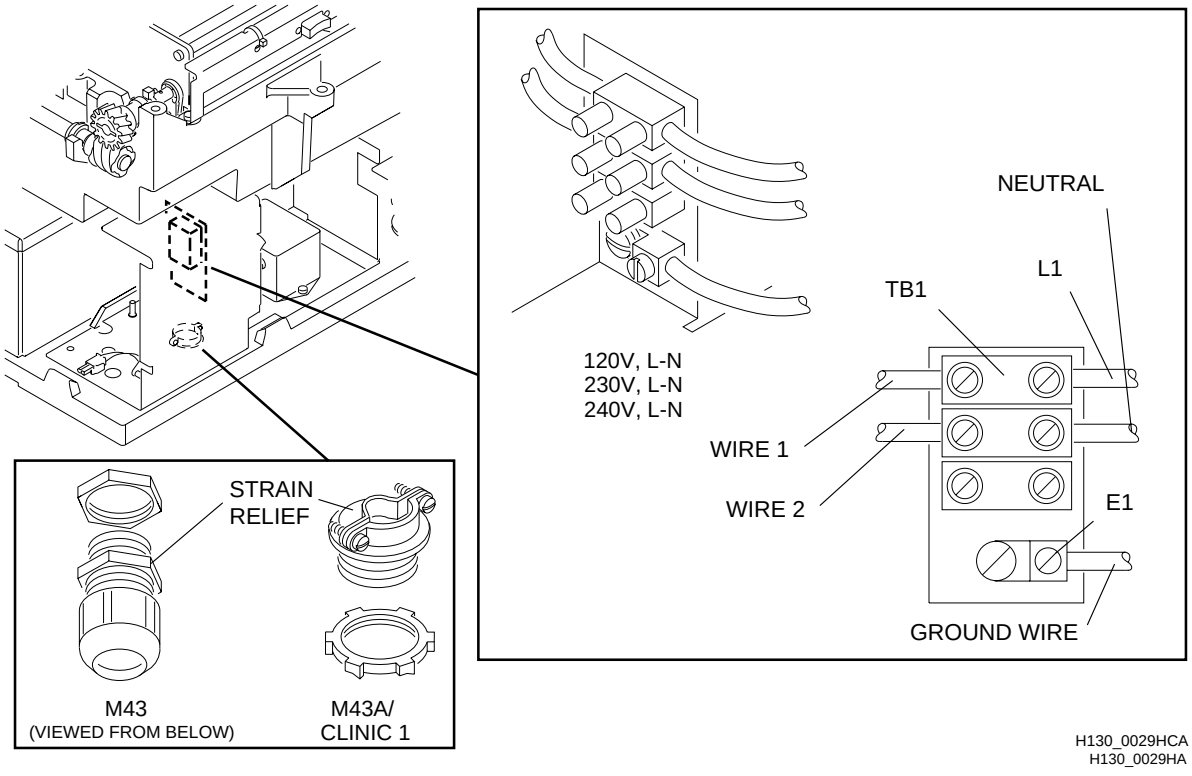
To prevent light leaks, apply CAULK around the holes in the WOOD FRAME where the HOSES and POWER CABLE pass through.

[50] Check that the STRAINER ASSEMBLIES are installed in the REPLENISHMENT HOSES near the REPLENISHMENT TANKS.

[51] Install the POWER CABLE (provided with the M43A only) through the STRAIN RELIEF on the PROCESSOR. If further detail is necessary, see “Making the Electrical Connection,” Steps a through f on Page 50.

[52] Tighten the STRAIN RELIEF to secure the POWER CABLE.

Figure 20 **Installing the POWER CABLE**



[53] Route the POWER CABLE (provided for the M43A) as necessary for your installation requirements.

(a) Route the CABLE into the MOUNTING STAND in one of the following ways:

- through the notches in the top of either of the side walls
- under the bottom of one of the side walls

(b) It is not recommended to route the POWER CABLE through the darkroom wall. If you **must** route the POWER CABLE through the darkroom wall, do the following:

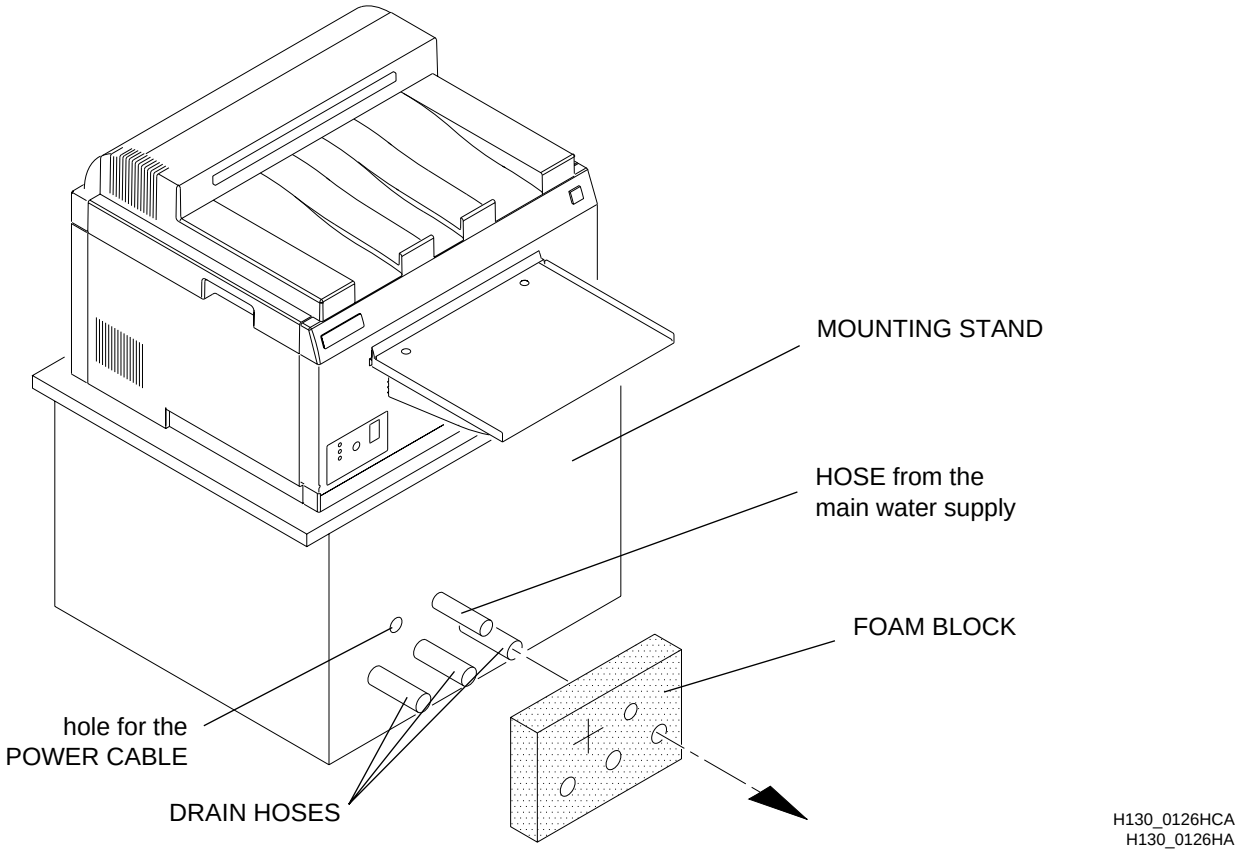
Identify:

- 3 DRAIN HOSES
- HOSE from the main water supply
- POWER CABLE

If the REPLENISHMENT TANKS are located in the MOUNTING STAND, route the HOSES and POWER CABLE listed above through the:

- closed end of the MOUNTING STAND
- FOAM BLOCK
  - you will need to make a hole in the FOAM BLOCK for the POWER CABLE to pass through
- holes in the WOOD FRAME

Figure 21 **Positioning the FOAM BLOCK for Installations with the REPLENISHMENT TANKS Located in the MOUNTING STAND**



Installing the LIGHTTIGHT GASKET on the PROCESSOR

[54] Cut 3 pieces of the foam GASKET (provided in the THROUGH-THE-WALL KIT) as follows. See the figure.

- **(a)** Cut one GASKET to fit between the 2 MOUNTS for the FEED TRAY.
- **(b)** Cut one GASKET for the area to the right of the MOUNT for the FEED TRAY. Be sure that the GASKET is long enough to extend **6 mm (¼ in.) beyond** the edge of the DEVELOPER TANK WALL. See the figure below.
- **(c)** Cut one GASKET for the area to the left of the MOUNT for the FEED TRAY. Be sure that the GASKET is long enough to extend **6 mm (¼ in.) beyond** the edge of the DEVELOPER TANK WALL. See the figure below.

[55] Install the GASKETS to the front of the DEVELOPER TANK WALL as shown below.

[56] Cut a 5.1 cm (2-in.) piece from the foam GASKET **for each side** of the DEVELOPER TANK WALL.

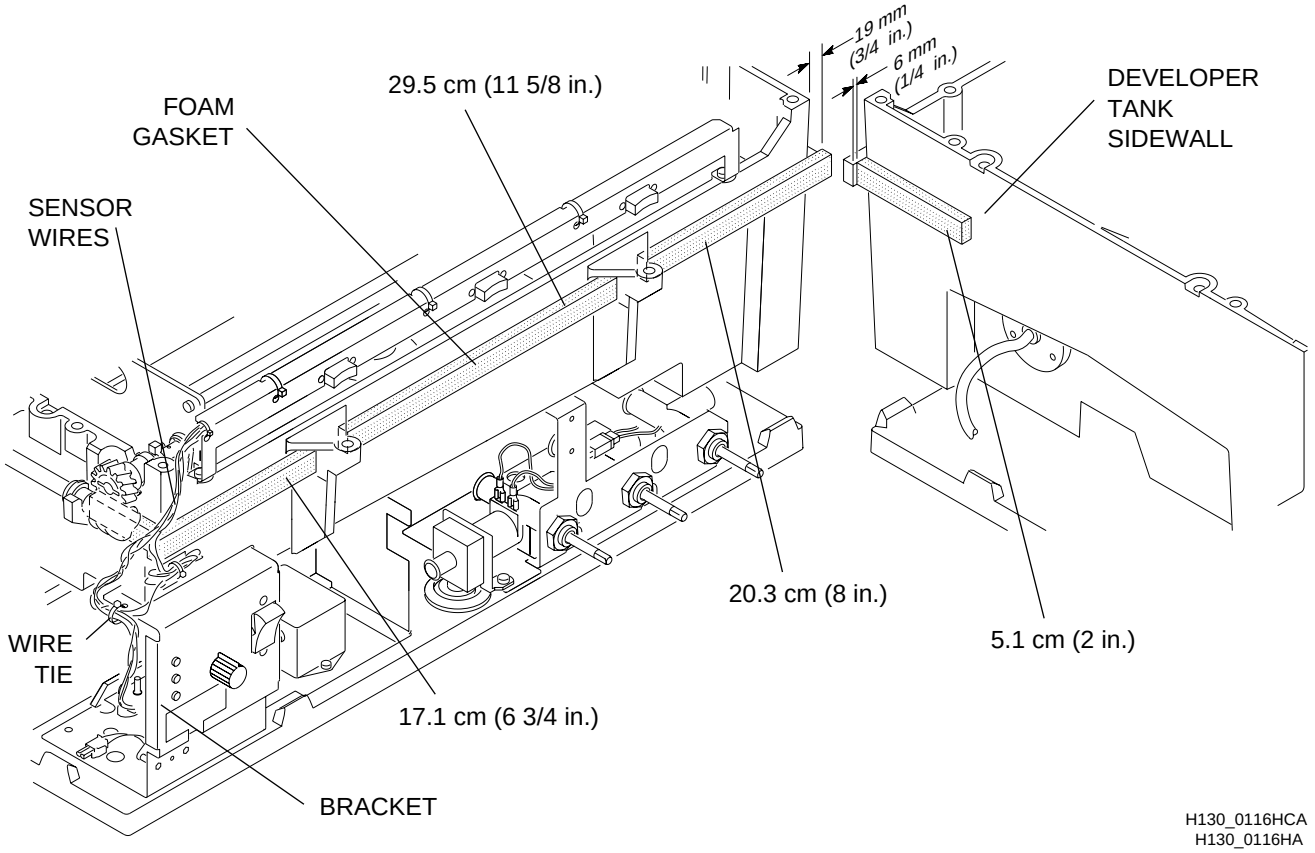
[57] Install one GASKET on the drive side of the PROCESSOR **under** the FILM SENSOR WIRES.

[58] Install the other GASKET on the non-drive side.

[59] Advance to the appropriate section as outlined below.

- **(a)** If you are installing an M43A PROCESSOR for 50 Hz operation, advance to the section "Changing the PROCESSOR to 50 or 60 Hz Operation" on Page 32. Do all the procedures through "Installing the DRYER RACK" on Page 44.
- **(b)** If you are installing an M43A or Clinic 1 PROCESSOR for 60 Hz operation, advance to the section "PROCESSOR Setup Options" on Page 35.

Figure 22 **Installing the GASKETS to the Front and Sides of the PROCESSOR**



Securing the PROCESSOR to the Wall

[60] If you are installing a LIGHTTIGHT FEED TRAY, see Publication Number 1C0937 for installation instructions.

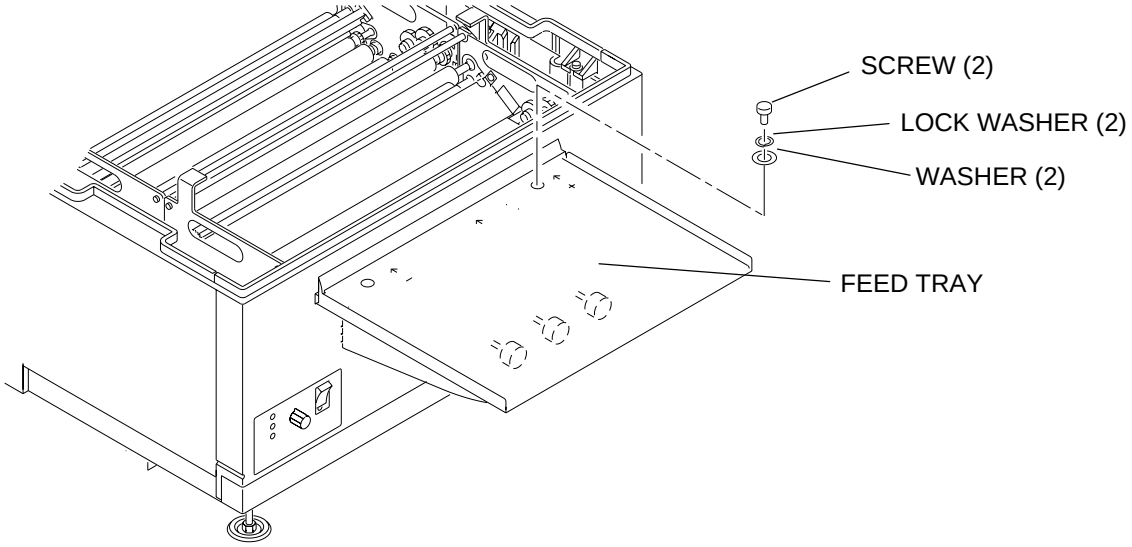
[61] Install the FRONT ACCESS PANEL onto the PROCESSOR and tighten the 2 SCREWS to secure it.

[62] Align the FEED TRAY so that it is flush with the FRONT ACCESS PANEL on the PROCESSOR.

[63] Install FEED TRAY onto the PROCESSOR using the following parts:

- 2 SCREWS
- 2 LOCK WASHERS
- 2 WASHERS

Figure 23 **Installing the FEED TRAY**



H130_0084BCA
H130_0084BA

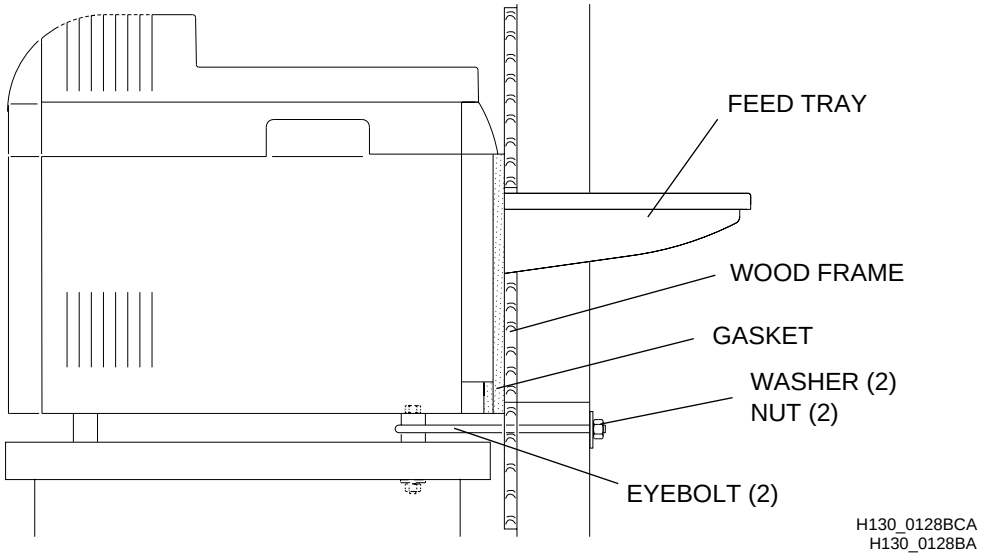
[64] Move the PROCESSOR and MOUNTING STAND toward the wall. Position the PROCESSOR so that the EYEBOLTS align with the 2 holes cut in the WOOD FRAME.

[65] Slowly move the PROCESSOR and MOUNTING STAND to the wall. Insert the EYEBOLTS through the 2 holes in the WOOD FRAME.

[66] Check that:

- HOSES and POWER CABLE are not pinched
- FOAM BLOCK is compressed between the MOUNTING STAND and the WOOD FRAME for installations where the REPLENISHMENT TANKS are located in the MOUNTING STAND
- DRAIN HOSES slope downward from the VALVE connections through the wall

Figure 24 **Moving the PROCESSOR to Its Final Position**



[67] Move the PROCESSOR and MOUNTING STAND flush against the WOOD FRAME.

[68] If you will be using the SEISMIC BRACKET KIT and did not install the special FLOOR PLATES from the SEISMIC BRACKET KIT, position the FLOOR PLATES provided under the LEVELING FEET of the MOUNTING STAND.

[69] Fasten the EYEBOLTS inside the darkroom using:

- 2 WASHERS
- 2 NUTS

[70] For installations where the REPLENISHMENT TANKS are located in the darkroom, use opaque CAULK to make a lighttight seal around all the holes cut in the WOOD FRAME.

[71] Check that:

- all GASKETS are compressed
- no obvious light leaks exist

[72] Check that the PROCESSOR is level front-to-back and side-to-side. See the section “Leveling the PROCESSOR” on Page 47.

[73] Install the 2 SIDE ACCESS PANELS and the BACK ACCESS PANEL on the PROCESSOR.

[74] Check that the TOP COVER of the PROCESSOR can be easily installed and removed.

[75] If the LIGHTTIGHT FEED TRAY is installed, check that it can be easily opened.

[76] Turn off the lights in the darkroom. Check for light leaks. If necessary, make corrections.

[77] If you plan to secure the MOUNTING STAND to the floor, install the SEISMIC BRACKET KIT 261413 by following the instructions provided with the KIT.

Connecting the REPLENISHMENT HOSES

Note

- The developer REPLENISHMENT HOSE has a **red** WIRE TIE for easy identification.
- The fixer REPLENISHMENT HOSE has a **blue** WIRE TIE for easy identification.

[78] Use the parts from the THROUGH-THE-WALL KIT listed below to route the REPLENISHMENT HOSES to the REPLENISHMENT TANKS in the darkroom.

- 2 clear REPLENISHMENT HOSES - 3/8 in. ID (not provided in the THROUGH-THE-WALL KIT)
- 2 REPLENISHMENT HOSE FITTINGS - 3/8 in. Barbed
- 2 REPLENISHMENT HOSE CLAMPS - 1/2 in.

[79] Check that the STRAINER ASSEMBLIES are installed in the REPLENISHMENT HOSES near the REPLENISHMENT TANKS.

Routing the DRAIN HOSES

Warning

- DRAINS must be made of chemically resistant, non-corrosive material. Use CPVC or equivalent.
- The DRAIN must have a minimum diameter of 7.6 cm (3 in.) and be free of obstruction.
- The DRAIN must have a capacity of 10 litres/min (1.3 gal/min).
- DRAIN service must comply with local codes.
- Local codes must be consulted to determine which solutions, if any, can be drained directly into the building system.
- The PROCESSOR provides a water gap of 5.1 cm (2 in.)

[80] Locate the opaque DRAIN HOSES coming through the WOOD FRAME.

[81] Connect the parts from the THROUGH-THE-WALL KIT listed below to route the DRAIN HOSES to either the DRAIN or to the SILVER RECOVERY UNIT:

- 3 clear DRAIN HOSES - 3/4 in. ID (provided with the M43 and M43A PROCESSORS and in the Clinic 1 INSTALLATION KIT)
- 3 DRAIN HOSE FITTINGS - 3/4 in. Barbed
- 6 DRAIN HOSE CLAMPS #12 - 3/4 in.

[82] Check that all the DRAIN HOSES slope continuously downward to the DRAIN to provide for proper drainage. In particular, check that the section of DRAIN HOSE extending from the DRAIN VALVE on the light side of the PROCESSOR through the wall of the darkroom slopes downward continuously.

Note

Fittings for connecting a SILVER RECOVERY UNIT are not provided with the PROCESSOR nor in the THROUGH-THE-WALL KIT.

Installing the KNOBS

[83] Install the KNOBS for the DRAIN VALVES by doing the steps below:

(a) Check that all 3 DRAIN VALVES are closed.

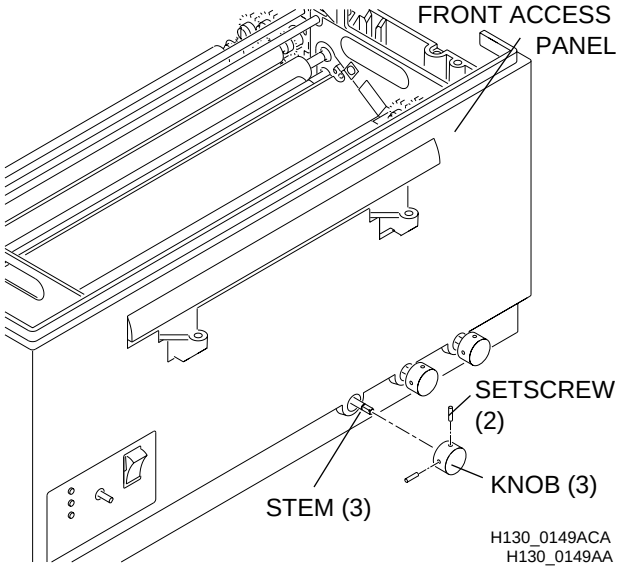
(b) Install the 3 KNOBS.

Check that you align the SETSCREW of the KNOB with the flat section of the STEM.

Leave a 3 mm (⅛ in.) gap between the FRONT ACCESS PANEL and the back of the KNOBS.

Secure the KNOBS using the 2 SETSCREWS provided for each.

Figure 25 **Installing the KNOBS for the DRAIN VALVES**



[84] Install the DRYER TEMPERATURE CONTROL KNOB.

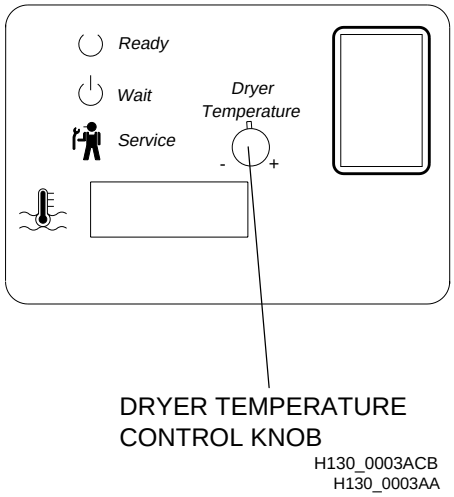
(a) Align the SETSCREW of the KNOB with the flat section of the STEM.

(b) Press the DRYER TEMPERATURE CONTROL KNOB onto the STEM of the DRYER TEMPERATURE CONTROL.

(c) Check that the DRYER TEMPERATURE CONTROL KNOB is not touching the FRONT ACCESS PANEL.

[85] Advance to “Doing the Water Leak Test” procedure on Page 54.

Figure 26 **Installing the DRYER TEMPERATURE CONTROL KNOB**

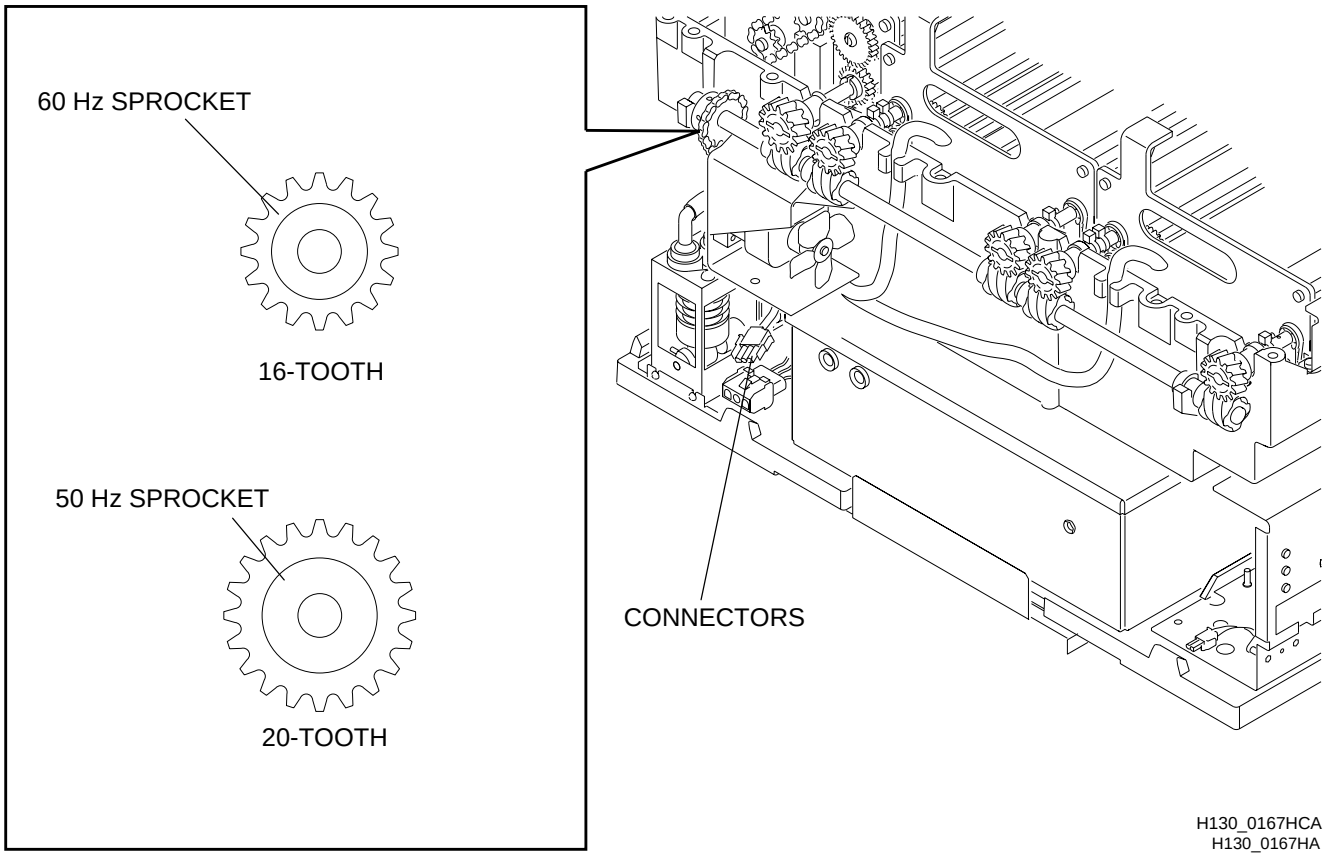


Section 3: Changing the PROCESSOR to 50 or 60 Hz Operation, M43 and M43A Only

Important

- **Clinic 1 PROCESSORS cannot be installed in 50 Hz sites.** There is no 50 Hz SPROCKET for the Clinic 1 PROCESSOR. If you are installing a Clinic 1 PROCESSOR, advance to the "PROCESSOR Setup Options" section on Page 35.
- All *Kodak X-Omat* M43A PROCESSORS and *Kodak X-Omat* Clinic 1 PROCESSORS are set up for 115 V AC, 60 Hz operation only.
- If you are installing an M43A PROCESSOR into a 50 Hz site, you will need to switch the SPROCKET on the MAIN DRIVE MOTOR, and switch the input CONNECTOR on the DRIVE MOTOR.
- All *Kodak X-Omat* M43 PROCESSORS are set up for 230 V AC, 50 Hz operation.
- If you are installing an M43 PROCESSOR into a 60 Hz site, you will need to switch the SPROCKET on the MAIN DRIVE MOTOR, and switch the input CONNECTOR on the DRIVE MOTOR.

Figure 27 **Identifying the 2 SPROCKETS**



Installing the Alternate SPROCKET on an M43 or M43A PROCESSOR Only

[1] Locate the alternate SPROCKET in the bag of hardware provided.

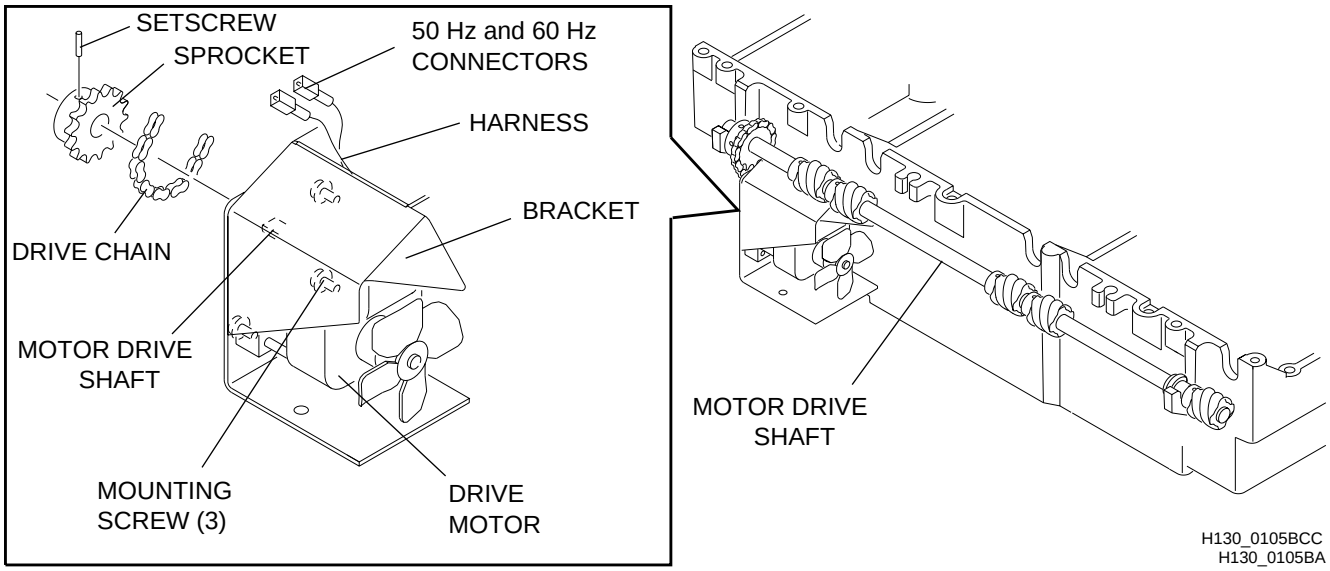
[2] Loosen the 3 MOUNTING SCREWS securing the DRIVE MOTOR to the BRACKET. This will allow you to slide the DRIVE MOTOR up and down in the BRACKET.

[3] Remove and save the SETSCREW from the SPROCKET on the MOTOR DRIVE SHAFT.

[4] Slide the DRIVE MOTOR up in its BRACKET as necessary to remove the DRIVE CHAIN from the SPROCKET. If necessary for more space, remove the BRACKET from the PROCESSOR.

[5] Remove the SPROCKET.

Figure 28 **Changing the PROCESSOR to 50 or 60 Hz Operation**



Note

When doing the steps below, see Figure 28 above or Figure 29 on Page 34.

[6] Install the alternate SPROCKET onto the DRIVE MOTOR.

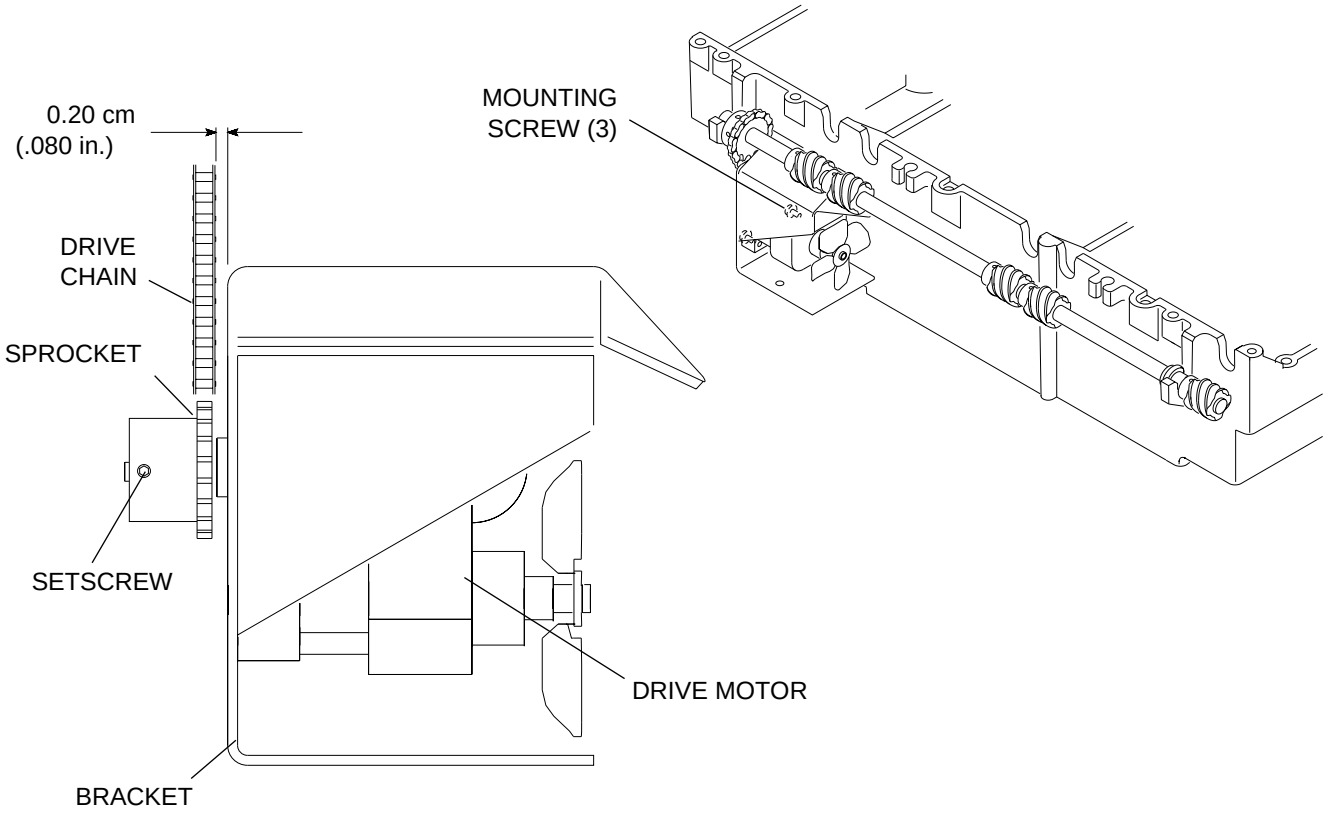
- **(a)** See the figures for the correct orientation of the SPROCKET.
- **(b)** Check that the FLAT of the SPROCKET is aligned with the FLAT of the MOTOR DRIVE SHAFT.
- **(c)** Install the SPROCKET onto the DRIVE MOTOR using the SETSCREW removed in Step 3. **Do not fully tighten the SETSCREW.**
- **(d)** Position the DRIVE CHAIN on the SPROCKET.
- **(e)** Check that the gap between the BRACKET and the DRIVE CHAIN is approximately 0.20 cm (.080 in.).
- **(f)** Tighten the SETSCREW.

[7] Adjust the tension of the DRIVE CHAIN as necessary, by tightening the 3 MOUNTING SCREWS loosened in Step 2.

Note

Do not overtighten the DRIVE CHAIN. Overtightening the DRIVE CHAIN can shorten the service life of the DRIVE MOTOR. Tighten the tension of the DRIVE CHAIN only enough to eliminate slack in the DRIVE CHAIN. See the Service Manual, Publication Number 981090, for the adjustment procedure.

Figure 29 **Checking the Gap Between the BRACKET and the DRIVE CHAIN**



Changing the Input CONNECTOR on the DRIVE MOTOR

[1] Locate the CONNECTORS labeled “50 Hz” and “60 Hz” on the DRIVE MOTOR behind the BRACKET.

Note

- Only one CONNECTOR will be connected.
- If necessary for better access to the CONNECTORS, remove the BRACKET from the PROCESSOR.

[2] Cut the WIRE TIE on the CONNECTOR that is not in use.

[3] Connect the appropriate CONNECTOR for 50 Hz or 60 Hz operation.

[4] Secure the loose CONNECTOR out of the way with a new WIRE TIE.

Section 4: PROCESSOR Setup Options

Available Options

The PROCESSOR software allows for 4 optional setups. Typically, the optional setups are configured at the time of installation, but they may be changed at any time by **qualified service personnel**.

[1] Normal or Flooded Replenishment

The PROCESSOR is factory set to the normal replenishment mode. In normal replenishment mode, the replenishment is based on:

- film area as detected by the 3 FILM SENSORS in the M43 and M43A PROCESSORS
- length of film detected by the 3 FILM SENSORS in the Clinic 1 PROCESSOR

Flooded replenishment mode is intended for sites processing low volumes of film, see the Replenishment Rate Sheet Publication Number 1C0578. Using the flooded replenishment mode may also be beneficial if you are experiencing difficulty in maintaining a stable chemical process because of low volume or erratic film usage. In the flooded replenishment mode, every 24 minutes the PROCESSOR pumps the preset volume of replenishment solutions to process the equivalent of one 35 x 43 cm (14 x 17 in.) sheet of film.

[2] Celsius or Fahrenheit Developer Temperature Display Units (Models M43 and M43A Only)

The PROCESSOR can display degrees Celsius °C or degrees Fahrenheit °F. The PROCESSOR is factory set to display the developer temperature in degrees Celsius.

[3] Standby Mode or Continuous Mode

The PROCESSOR is factory set for the standby mode. In standby mode the drive system, DRYER BLOWER, and DRYER HEATER remain de-energized until a film is fed. Standby mode conserves both electricity and water consumption and minimizes wear on the parts. Most installations should operate the PROCESSOR in standby mode.

You may, however, want to change to the continuous mode if the PROCESSOR is set up in the following conditions:

- low ambient conditions - normally below 18°C (65°F)
- low voltage conditions - close to the lower end of the specified range
- high usage installation
- diagnostic mode - service personnel diagnosing a problem

[4] Low or Continuous Water Usage Mode

The PROCESSOR is factory set for Continuous Water Usage Mode. In this mode, water runs at one litre per minute. This allows fresh water to circulate through the PROCESSOR and prevent biological growth. If biological growth is not a concern, the PROCESSOR may be set to Low Water Usage Mode.

Note

In the U.K., check that specific water usage requirements are met.

The 3 optional setups can only be configured by **qualified service personnel**. To change the factory settings for any of the 3 optional setups, do the procedure for changing the options starting on Page 36.

Changing the PROCESSOR Setup Options

ESD
Possible damage from electrostatic discharge.

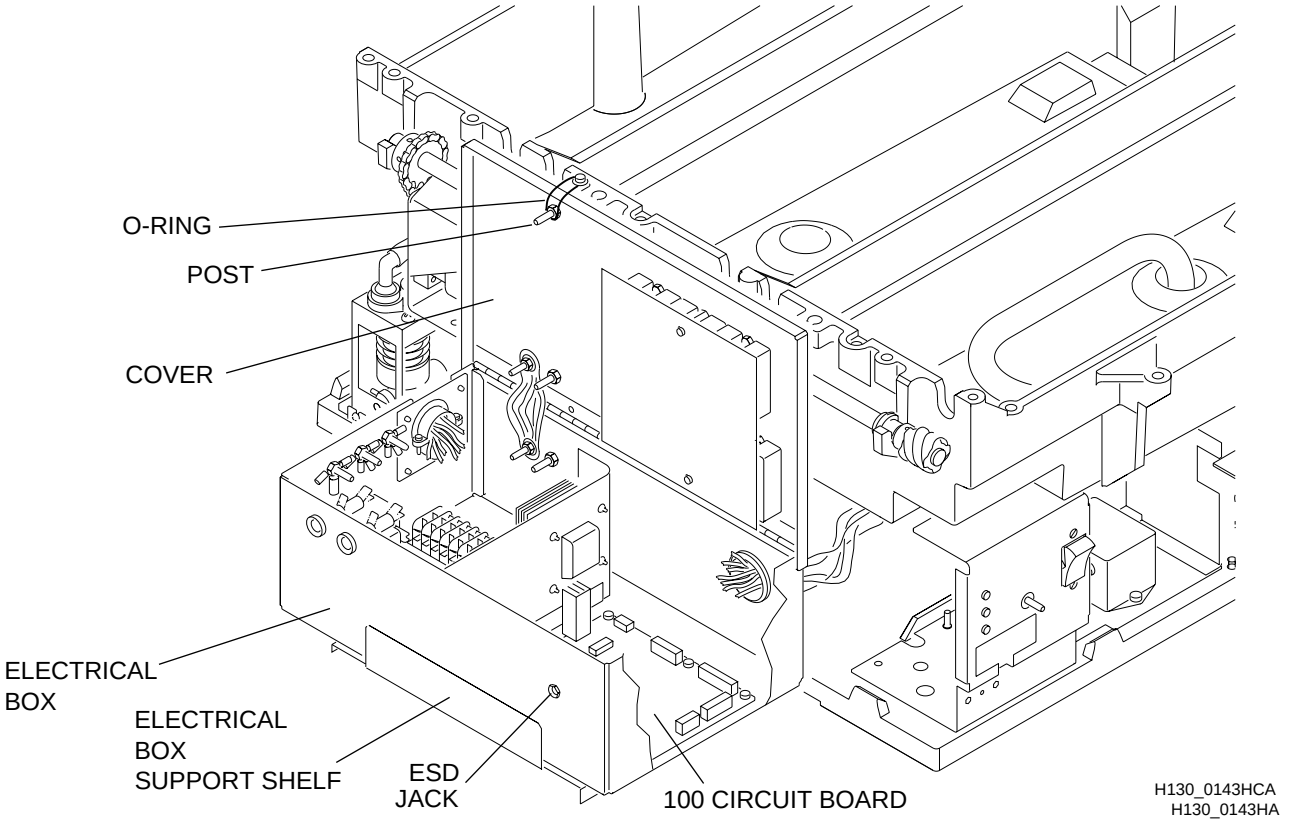
[1] Pull out the SUPPORT SHELF for the ELECTRICAL BOX from the drive side of the PROCESSOR.

[2] Pull out the ELECTRICAL BOX.

[3] Connect your ESD protective wrist strap to the ESD JACK on the ELECTRICAL BOX.

[4] Open the COVER of the ELECTRICAL BOX. Fasten the COVER open by placing the O-RING, that is on the PROCESSOR TANK, around the POST on the COVER.

Figure 30 **Pulling Out the ELECTRICAL BOX**



[5] On the 100 CIRCUIT BOARD, move the appropriate JUMPER to its alternate position. Use the chart and figure below to determine which JUMPER to move.

Table 1 Setup Options

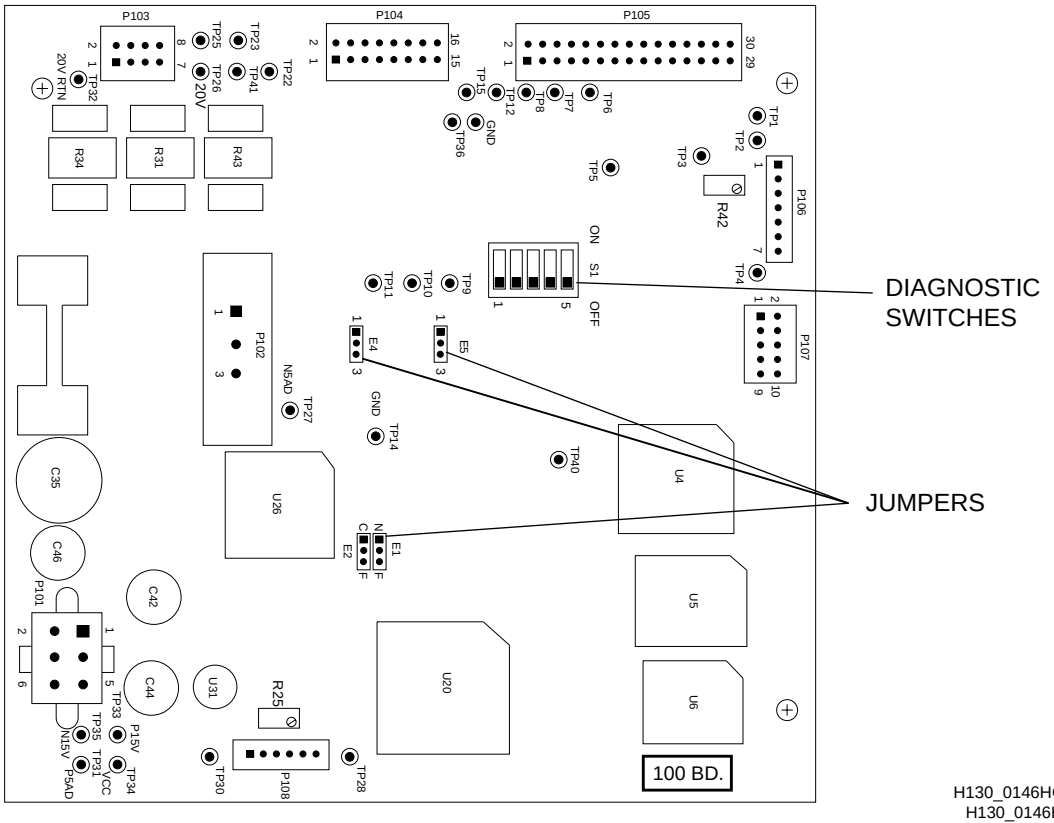
Setup Option	Factory Setting	JUMPER	Factory-Set JUMPER Position
Replenishment (Normal or Flooded)	Normal	E1	N • • o F
Developer Temperature Display Units (Celsius or Fahrenheit) M43 and M43A Only	Celsius*	E2	C • • o F
Not Used		E3	
Water Usage (Continuous or Low)	Continuous M43:550 and above M43A: 500 and above Clinic 1: 600 and above Low Remaining serial numbers	E4	1 • • o 3 1 o • • 3
Standby/Continuous Mode	Standby	E5	S • • o C

* If the position of this JUMPER is changed, recalibrate the DEVELOPER TEMPERATURE DISPLAY. See the Service Manual, Publication No. 981090.

Note

If Low Water Usage Mode is configured, the WASH WATER DRAIN VALVE must be changed. Refer to "Replacing the Drain Valves," Plumbing Section in the Service Manual.

Figure 31 **Changing PROCESSOR Setup Options on the 100 CIRCUIT BOARD**



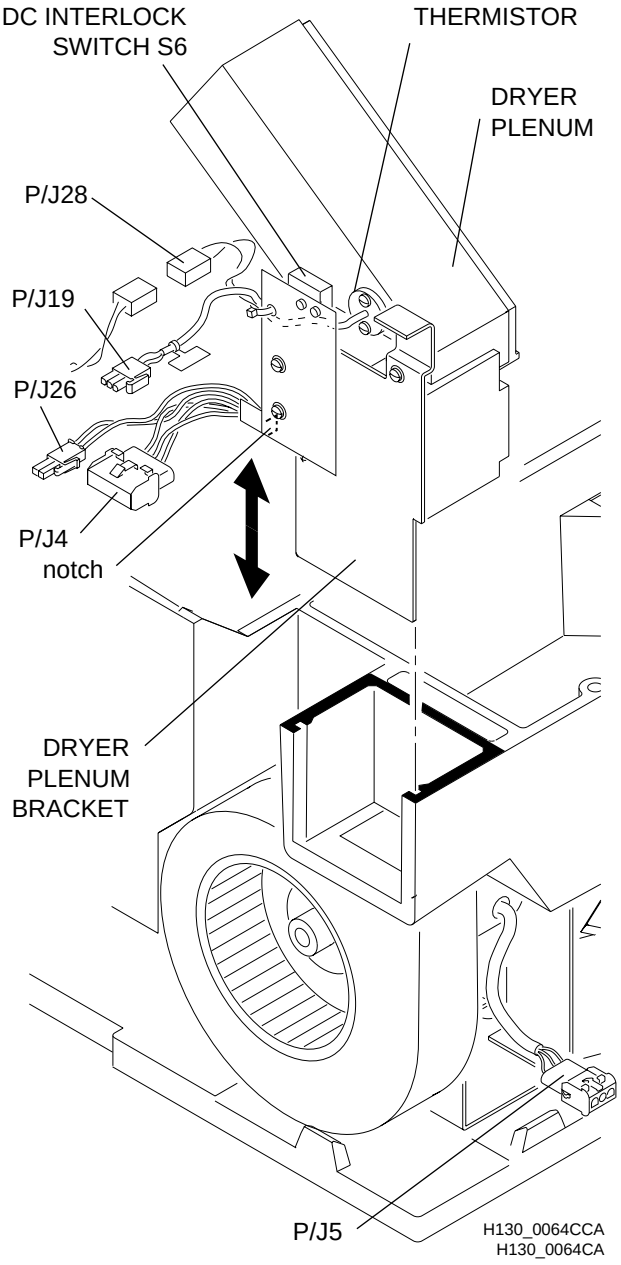
[6] Close the COVER on the ELECTRICAL BOX.

[7] Disconnect your ESD wrist strap.

[8] Slide the ELECTRICAL BOX and SUPPORT SHELF back into the PROCESSOR.

Section 5: Installing the DRYER PLENUM

Figure 32 **Installing the DRYER PLENUM**



[1] Install the DRYER PLENUM.

[2] Connect the components listed below.

DRYER COMPONENT	CONNECTOR NUMBER
DRYER THERMISTOR	P/J19
AIR VANE SWITCH	P/J26
DRYER HEATER	P/J4
DC INTERLOCK SWITCH S6	P/J28

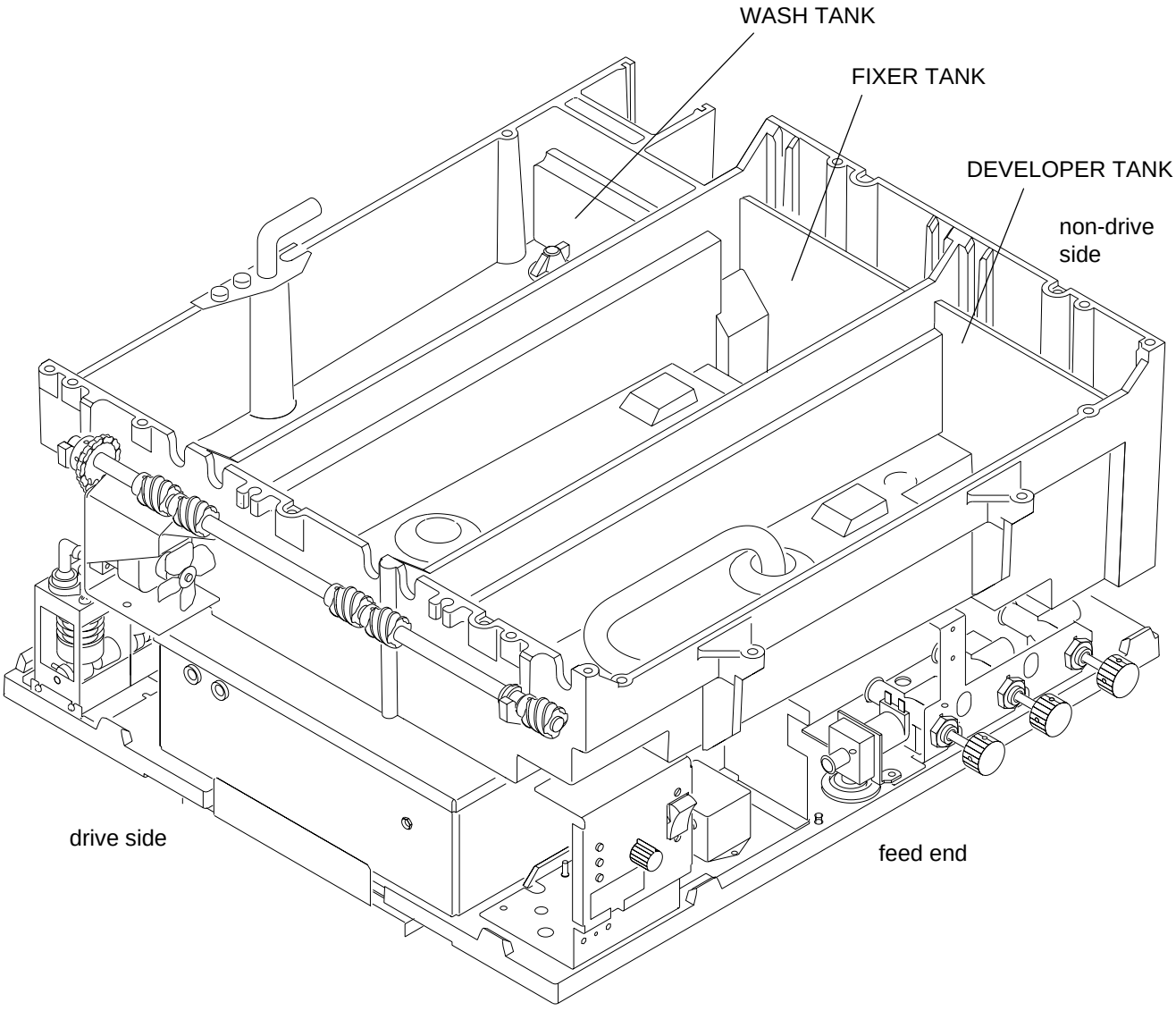
[3] Check that the WIRE HARNESS is inserted through the NOTCH in the DRYER PLENUM so that it does not prevent the DRYER PLENUM from seating correctly.

[4] Check that the DRYER PLENUM is seated flush against the WASH TANK.

Section 6: Installing the RACKS

Identifying the Parts of the PROCESSOR

Figure 33 **Identifying the TANKS**



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Installing the WASH RACK

[1] Check that the following parts are seated correctly in the WASH RACK:

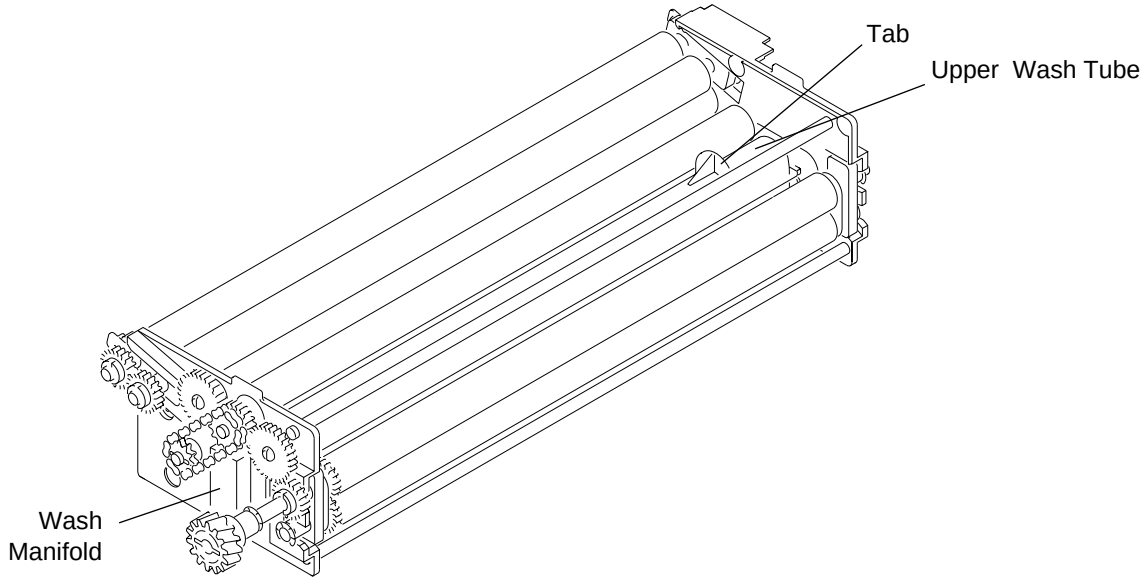
- ENTRANCE ROLLER ASSEMBLY
- 2 WASH TUBES
- O-RING on the WASH MANIFOLD
- EXIT ROLLER ASSEMBLY

Caution

Use care not to break off the SNAPS that hold the ENTRANCE ROLLER ASSEMBLY in position.

[2] Manually turn the DRIVE GEAR on the WASH RACK. Check that the ROLLERS turn easily and that the GEARS engage.

Figure 34 **Checking the Positions of the ENTRANCE ROLLER ASSEMBLY and EXIT ROLLER ASSEMBLY on the WASH RACK**



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[3] Check the WASH RACK for squareness by placing it on a flat work surface with the WASH MANIFOLD hanging over the edge of the work surface.

If the WASH RACK does not sit flat on the work surface:

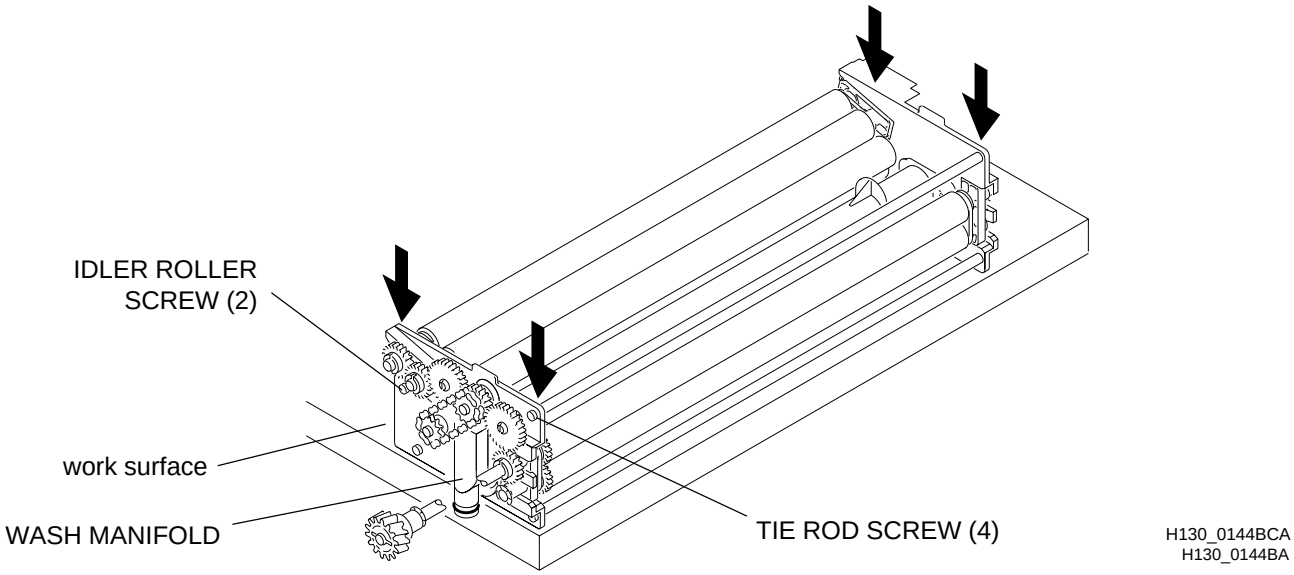
(a) Loosen the 4 TIE ROD SCREWS and the 2 IDLER ROLLER SCREWS.

(b) Press down on the WASH RACK until it sits flat on the work surface.

(c) Tighten all the SCREWS.

[4] Install the WASH RACK in the WASH TANK, non-drive end first.

Figure 35 **Checking the Squareness of the WASH RACK**



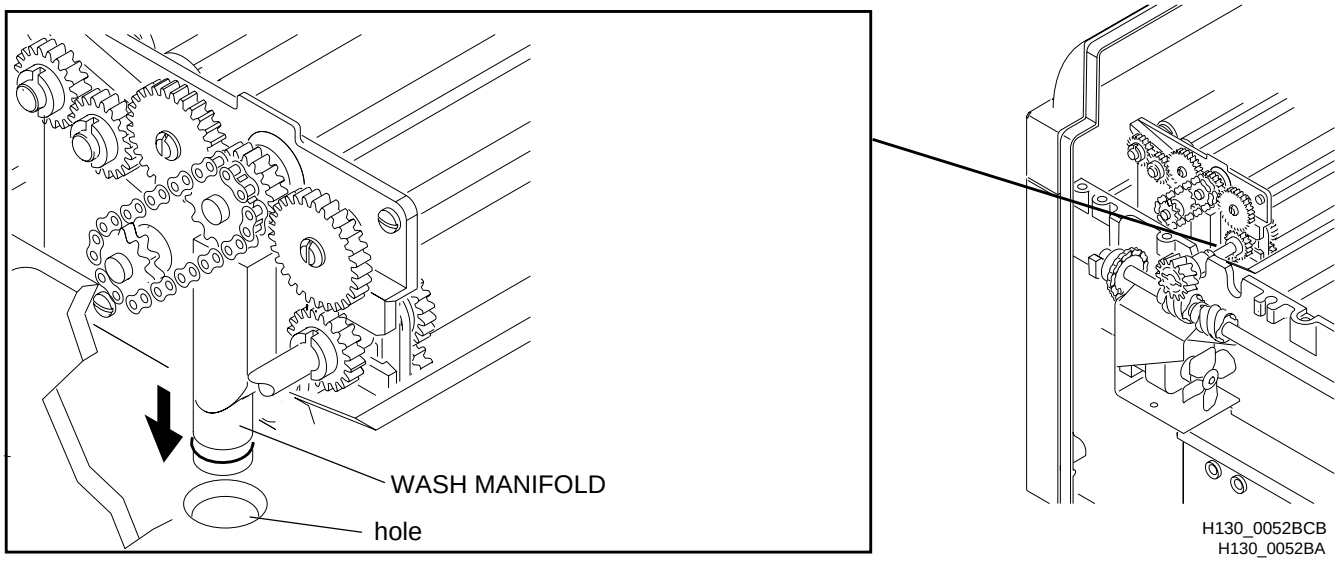
[5] Check:

- that the WASH MANIFOLD is inserted firmly in the water input hole in the WASH TANK.
- that the WASH RACK sits on the foam seal of the DRYER PLENUM and holds the DRYER PLENUM in place.
- that the DRIVE GEAR of the WASH RACK engages with the MAIN DRIVE GEAR.

Note

To prevent film transport problems, press the WASH MANIFOLD down slightly to seat the WASH MANIFOLD and the O-RING correctly in the hold.

Figure 36 **Checking the Position of the WASH MANIFOLD**



Installing the FIXER and DEVELOPER RACKS

[1] Manually turn the DRIVE GEAR on the FIXER and DEVELOPER RACKS. Check that all ROLLERS turn easily.

[2] Check **both** the FIXER and DEVELOPER RACKS for squareness by placing them on a flat work surface. If the RACK does not sit flat on the work surface:

a. Loosen the 8 TIE ROD SCREWS.

b. Press down on the RACK until it sits flat on the work surface.

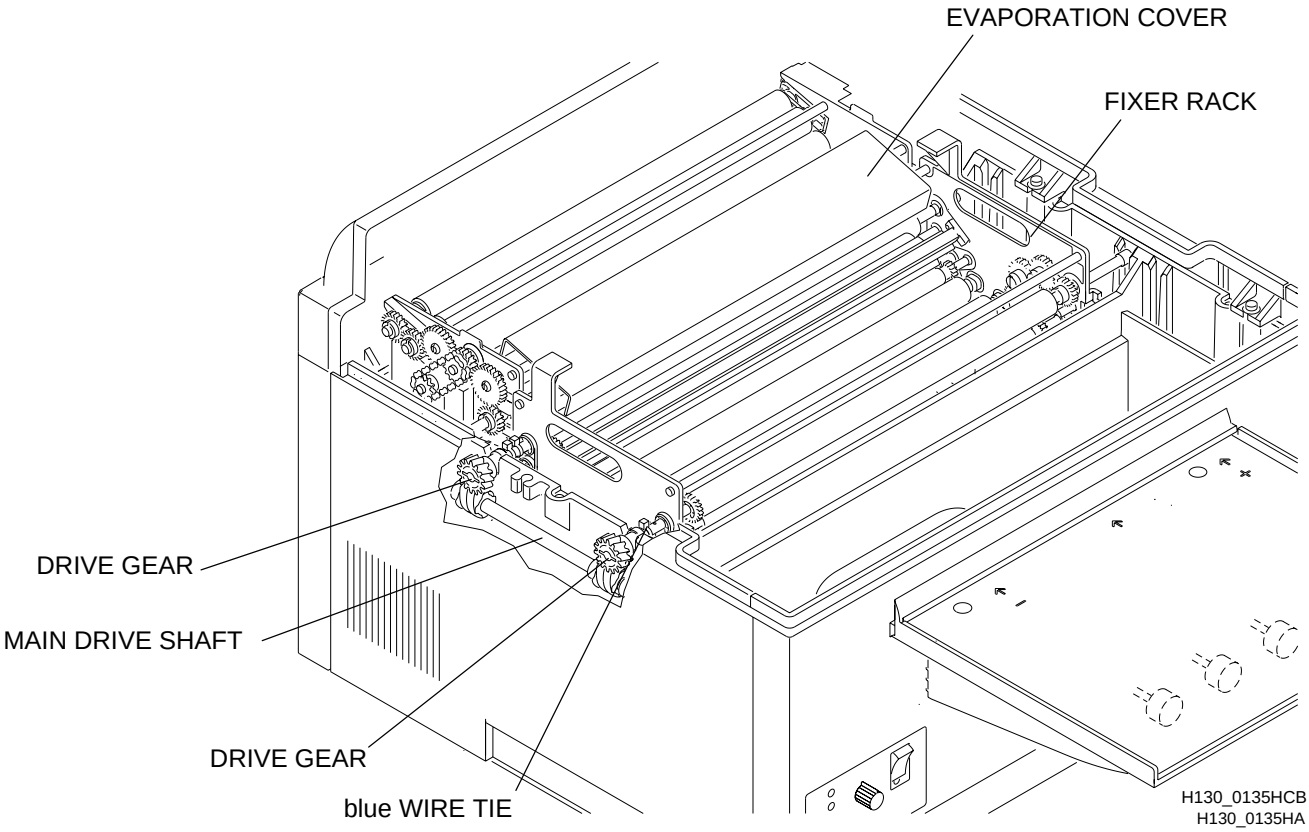
c. Tighten the TIE ROD SCREWS.

[3] Install the FIXER RACK into the FIXER TANK. Install the DEVELOPER RACK into the DEVELOPER TANK.

- The FIXER RACK and DEVELOPER RACK have different colored WIRE TIES for easy identification:
  - The **FIXER** RACK has a **blue** WIRE TIE.
  - The **DEVELOPER** RACK has a **red** WIRE TIE.
- Install the FIXER RACK so that the **blue** WIRE TIE is on the drive side of the FIXER TANK.
- Install the DEVELOPER RACK so that the **red** WIRE TIE is on the drive side of the DEVELOPER TANK.

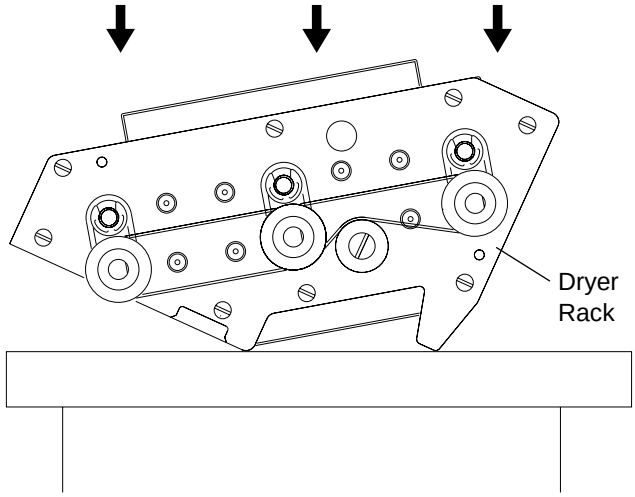
[4] Check that the DRIVE GEARS on the RACKS correctly engage with the GEARS on the MAIN DRIVE SHAFT.

Figure 37 **Installing the FIXER RACK**



Installing the DRYER RACK

Figure 38 **Adjusting the Squareness of the DRYER RACK**



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[1] Check that the tape holding the DRYER AIR TUBES is removed. See Figure 2 on Page 6.

[2] Check that all DRYER AIR TUBES are seated firmly in the SIDEPLATE.

[3] Manually turn the DRIVE PULLEY on the DRYER RACK. Check that all ROLLERS turn correctly. See Figure 39 on Page 45.

[4] Check the DRYER RACK for squareness by placing it on a flat work surface with the TOP COVER facing up.
If the DRYER RACK does not sit flat on the work surface:

- **(a)** Loosen the SCREWS for the COVERS and the TIE RODS.
- **(b)** Press down on the DRYER RACK until it sits flat on the work surface.
- **(c)** Tighten the SCREWS for the COVERS and TIE RODS.

[5] Install the DRYER RACK on top of the WASH RACK. See the figure below.

(a) Align the non-drive side of the DRYER RACK first.

(b) Check that all GEARS engage correctly.

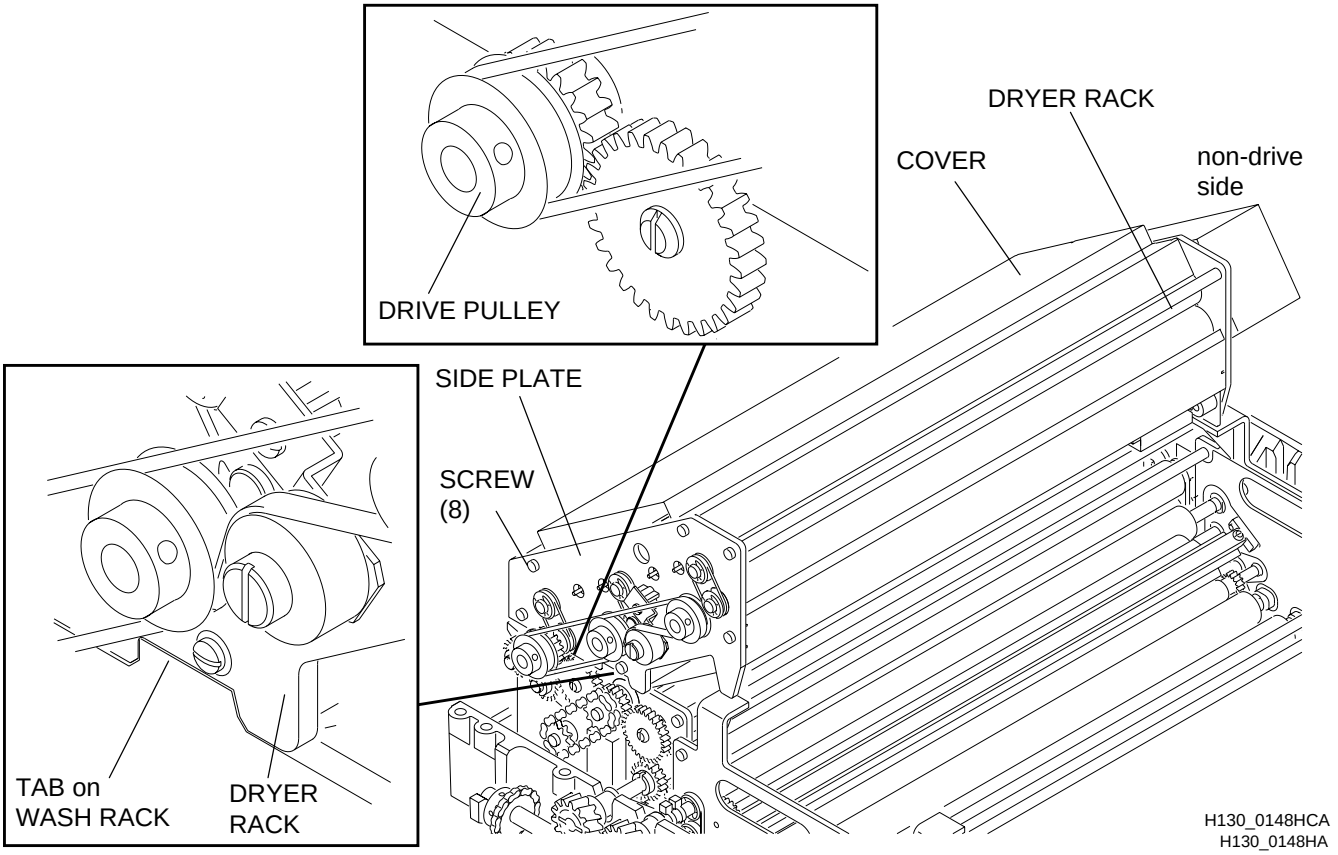
(c) Check that the DRYER RACK seats correctly on the DRYER PLENUM.

(d) Check that the SIDEPLATES of the WASH RACK are flush with the SIDEPLATES of the DRYER RACK.

(e) Check that the TABS on both sides of the WASH RACK engage the SIDEPLATES of the DRYER RACK correctly. See the figure below.

[6] If you are installing the PROCESSOR through the darkroom wall, go to section "Securing the PROCESSOR" on Page 28. If not, continue with Page 47.

Figure 39 **Installing the DRYER RACK**



Section 7: Leveling the PROCESSOR

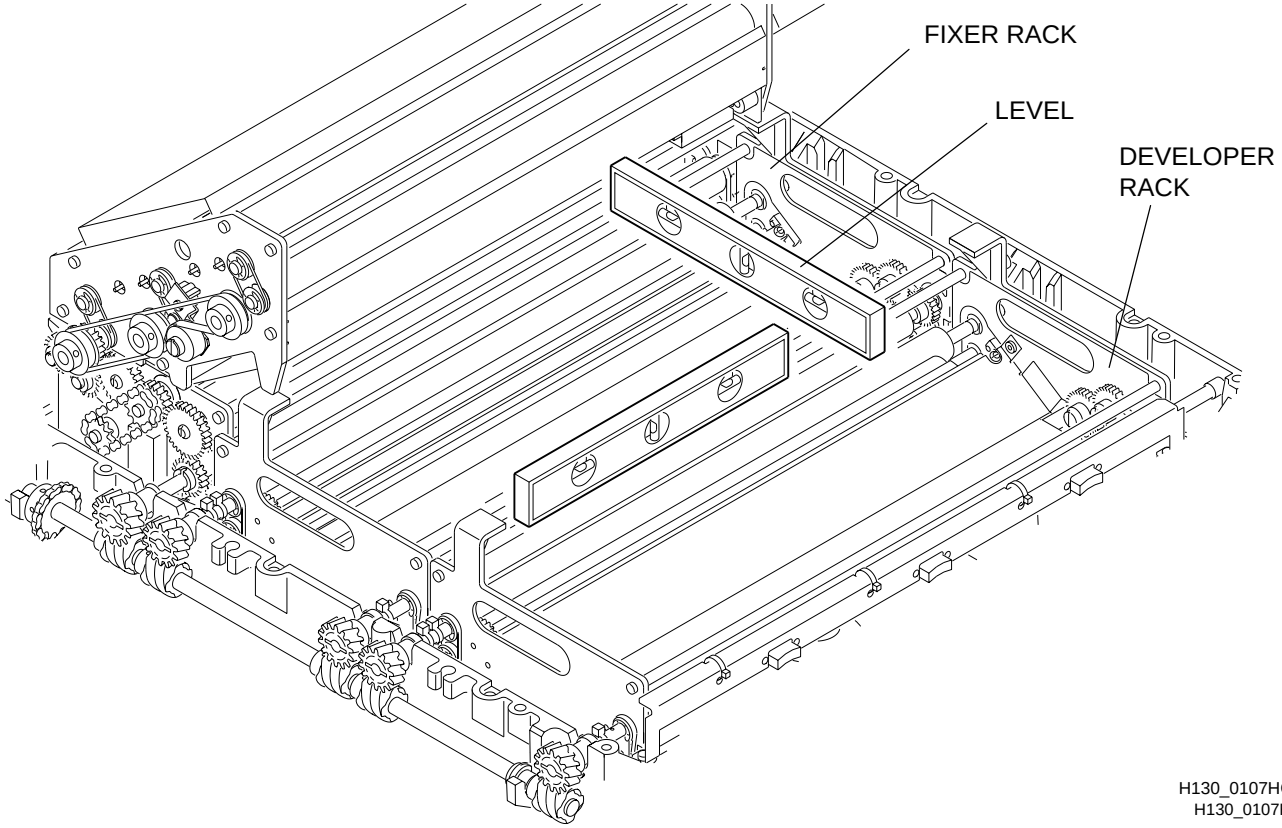
Important

- Leveling the PROCESSOR correctly will ensure:
  - the correct flow of the processing solutions
  - the correct transport of the film
  - the correct fit of all ACCESS PANELS
- If you plan to secure the MOUNTING STAND to the floor, level the PROCESSOR before you install the SEISMIC BRACKET KIT 261413.
- If you are installing the PROCESSOR on the MOUNTING STAND and are securing the PROCESSOR to the MOUNTING STAND, do the following steps using the LEVELING FEET for the MOUNTING STAND and **not** the LEVELING FEET for the PROCESSOR.
- Be sure that the PROCESSOR is in its final location before leveling it.

[1] Check that the DEVELOPER and FIXER RACKS are seated firmly.

[2] Place a LEVEL first front-to-back and then side-to-side across the RACKS. Check that both ends of the RACKS are level.

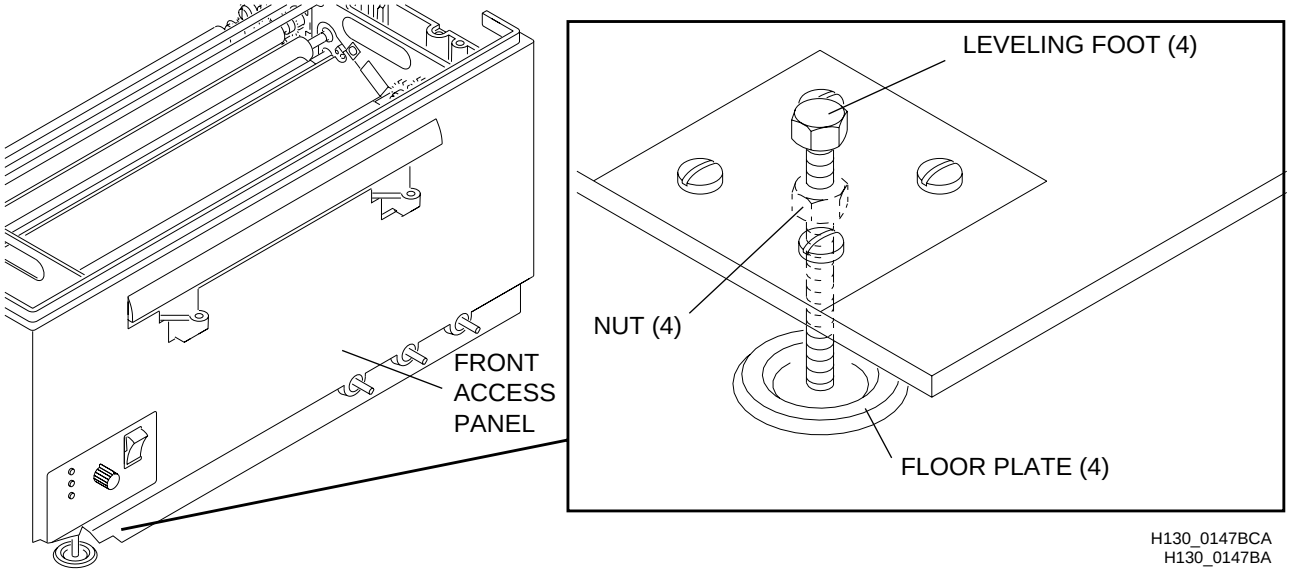
Figure 40 **Placing the LEVEL on the RACKS**



[3] Level the PROCESSOR and/or the MOUNTING STAND by using a 9/16 in. WRENCH to rotate the 4 LEVELING FEET.

[4] Repeat the procedure as necessary to level the PROCESSOR.

Figure 41 **Adjusting the LEVELING FEET**



[5] Once you have leveled the PROCESSOR and/or MOUNTING STAND, rotate the 4 NUTS on the LEVELING FEET of the PROCESSOR or MOUNTING STAND to secure the desired level.

Section 8: Making the Necessary Connections

Checking the Electrical Supply

Important Information

Caution

Check the polarity of the AC power supply using a DIGITAL VOLTMETER TL-1445. Applying power of non-standard polarity will **void the warranty** and can cause damage to the PROCESSOR.

Important

Contact your local power authority to determine whether the typical daily voltage at your site is within the range of 104 to 127 V AC. If the power authority states that the power available is within the range of 104 to 127 V AC, the site does **not** require the use of a TRANSFORMER KIT. If the voltage at your site is not within the range, the TRANSFORMER KIT CAT No. 167-4340 is required.

Important

Contact your local power authority to determine whether the typical daily voltage at your site is within the range of 207 to 253 V AC. If the power authority states that the power available is within the range of 207 to 253 V AC, the site does **not** require the use of a TRANSFORMER KIT. If the voltage at your site is not within the range, the TRANSFORMER KIT CAT No. 171-0292 is required.

Table 2 Service Options

Processor	Nominal Voltage Volts	Frequency Hz	Service
M43A and Clinic 1	120	50/60 - M43A 60 - Clinic 1	2-Wire, Single Phase, Dedicated Circuit, plus Earth Ground
M43	230 240	50/60 - M43 only	2-Wire, Single Phase, plus Earth Ground

Service Requirements for European Installations of the M43 PROCESSOR

Check for compliance with the requirements listed below:

- POWER CORD must comply with local codes.
- EARTH CONDUCTOR must be green and yellow in color.
- CONDUCTORS must have a minimum cross sectional area of 1.50 mm^2.
- For installations in Germany, check that the colors of the CONDUCTOR INSULATION comply with the requirements listed below:
  - Blue - Neutral
  - Brown - L_1
  - Black - L_2
  - Green/Yellow - Ground (PE)

Making the Electrical Connections

[1] Remove the FRONT ACCESS PANEL from the PROCESSOR by loosening the 2 SCREWS securing it.

[2] Make the electrical connections.

(a) Insert the POWER CABLE (a POWER CABLE without PLUG is provided for the M43A PROCESSOR only) through the STRAIN RELIEF in the base of the PROCESSOR.

(b) Connect the L1 and NEUTRAL lines to TERMINAL BLOCK TB1 behind the CONTROL PANEL.

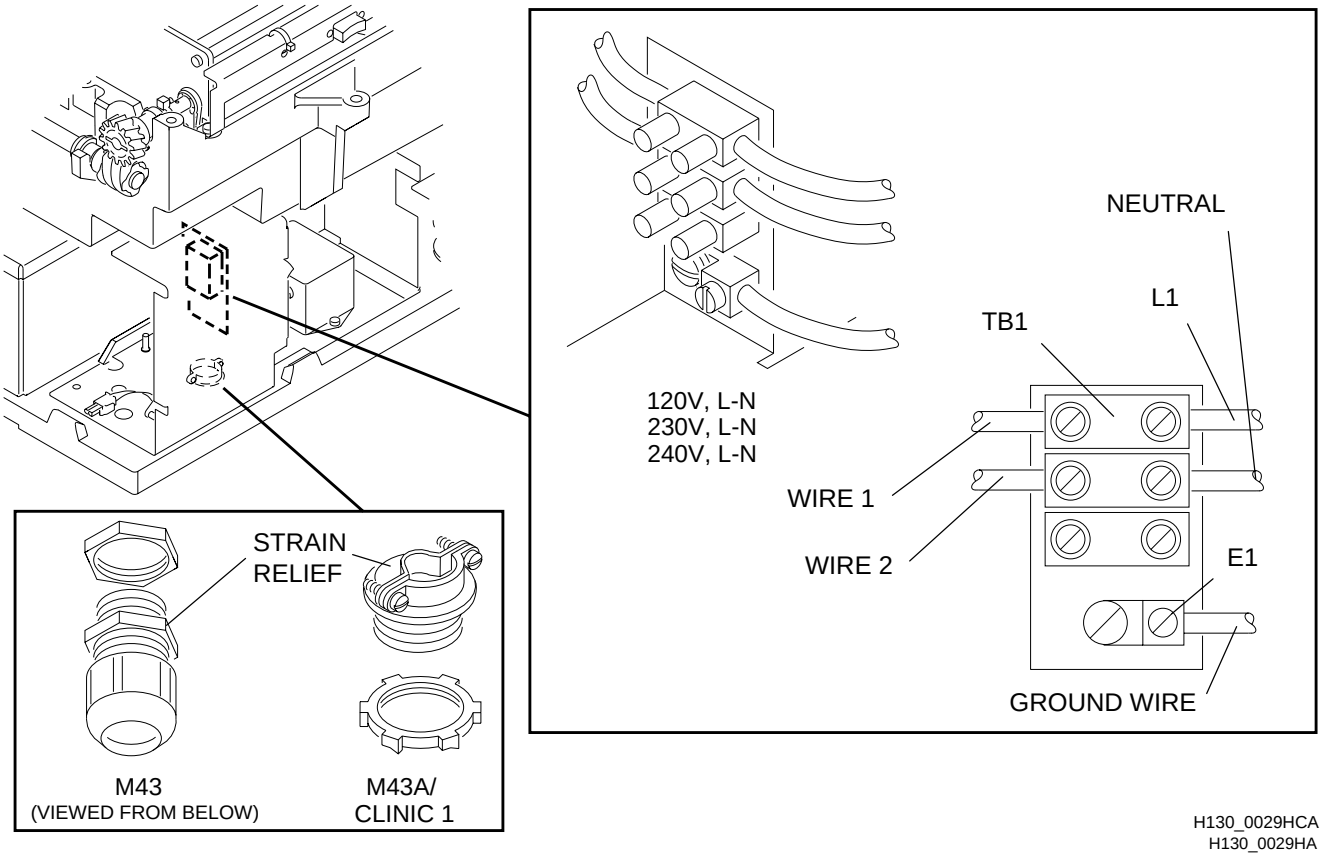
(c) Connect the GROUND WIRE to E1.

(d) Tighten the STRAIN RELIEF.

(e) Connect WIRE 1 to L1 on TB1 as shown in the figure.

(f) Connect WIRE 2 to NEUTRAL on TB1 as shown in the figure.

Figure 42 **Connecting the Wires to TB1 (115, 230, or 240 V AC)**



[3] Connect the PROCESSOR to the main building electrical supply.

Note

The service for the M43A and Clinic 1 PROCESSORS must be a dedicated line capable of carrying 20 AMPS. Check local codes for correct connections to the building supply.

Connecting the DRAIN LINES and the Water Supply HOSE for the Table Top or MOUNTING STAND Installations

Note

- DRAIN HOSES should be ¾ in. flexible, PVC tubing.
- PROCESSOR DRAIN HOSES must slope downward continuously to the floor DRAIN.

Warning

- DRAINS must be made of chemically resistant, non-corrosive material. Use CPVC or equivalent.
- The DRAIN must have a minimum diameter of 7.6 cm (3 in.) and be free of obstruction.
- The DRAIN must have a capacity of 10 litres/min (1.3 gal/min).
- DRAIN service must comply with local codes.
- Local codes must be consulted to determine which solutions, if any, can be drained directly into the building system.
- The PROCESSOR provides a water gap of 5.1 cm (2 in.)

[1] Connect the 3 DRAIN HOSES to the 3 DRAIN VALVE FITTINGS.

(a) Loosely place the CLAMPS, provided in the prepack, onto the 3 DRAIN HOSES.

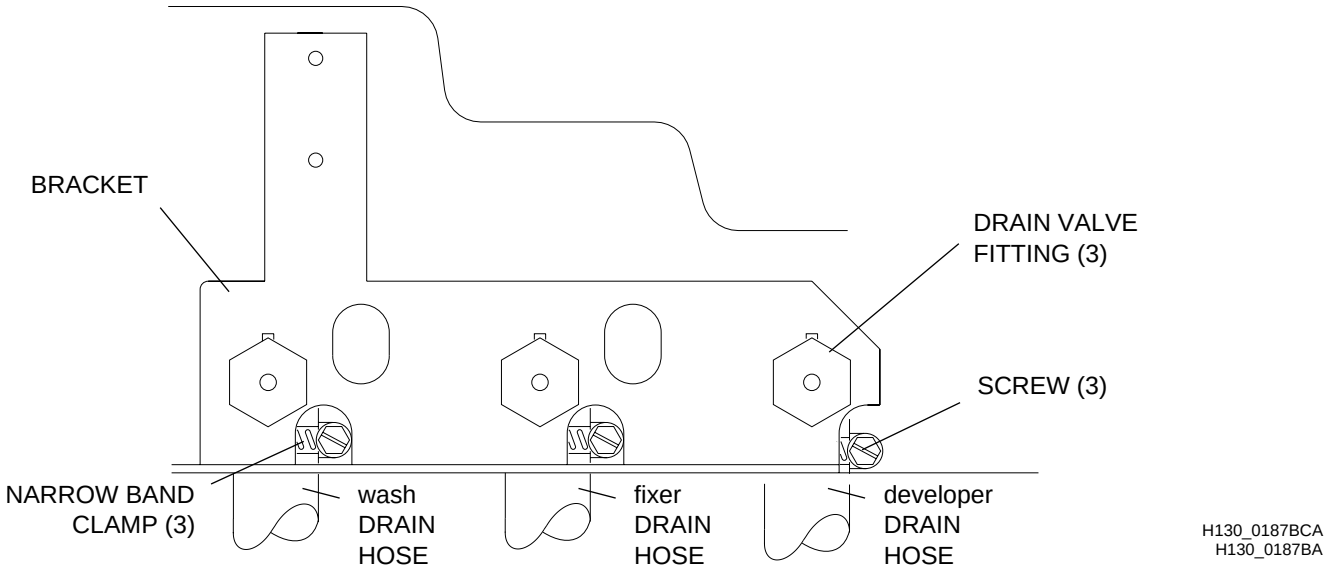
(b) Connect the 3 DRAIN HOSES to the VALVES.

(c) Move the CLAMPS up the DRAIN HOSES to their final position on the VALVES.

(d) Check that the CLAMPS are positioned so that you can access the SCREWS by inserting a SCREWDRIVER through the notches in the BRACKET.

(e) Tighten the SCREWS on the CLAMPS.

Figure 43 **Connecting the DRAIN HOSES**



[2] For an M43 PROCESSOR only, install the HOSE ADAPTER and WASHER packed with the PROCESSOR to the bottom of the WATER INPUT SOLENOID.

[3] Use a standard 5/8 in. NHT HOSE BIB FITTING to connect the HOSE from the main water supply to the under side of the WATER INPUT SOLENOID.

[4] Check that the Water Usage Mode is correct. Refer to Table 1, "Setup Options" on page 37. The PROCESSOR is factory set for Continuous Water Usage Mode. In this mode, water runs at one litre per minute. This allows fresh water to circulate through the PROCESSOR and prevent biological growth. If biological growth is not a concern, the PROCESSOR may be set to Low Water Usage Mode.

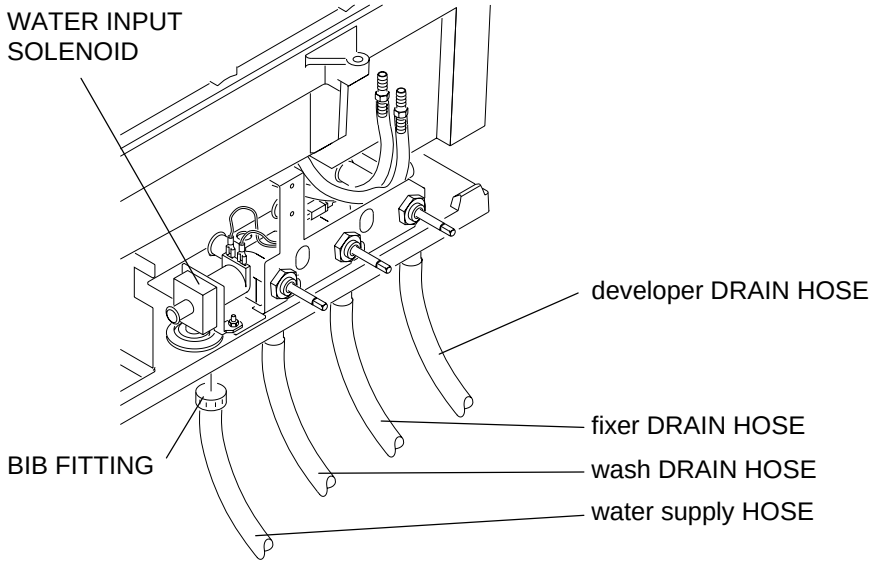
Note

If Low Water Usage Mode is configured, the WASH WATER DRAIN VALVE must be changed. A white dot on the WASH WATER VALVE STEM indicates a valve with an oraface, which is used for Continuous Wash Mode only. Refer to "Replacing the Drain Valves," Plumbing Section in the Service Manual.

Note

If you are routing a water supply HOSE under the PROCESSOR, you will need a 90° fitting, not provided, at the WATER INPUT SOLENOID connection.

Figure 44 **Connecting the DRAIN HOSES and the HOSE from the Main Water Supply**



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Connecting the HOSES from the REPLENISHMENT TANKS in Table Top or MOUNTING STAND Installations

[1] Check that all 3 DRAIN VALVES are closed.

[2] Remove the tape securing the REPLENISHMENT HOSES.

Note

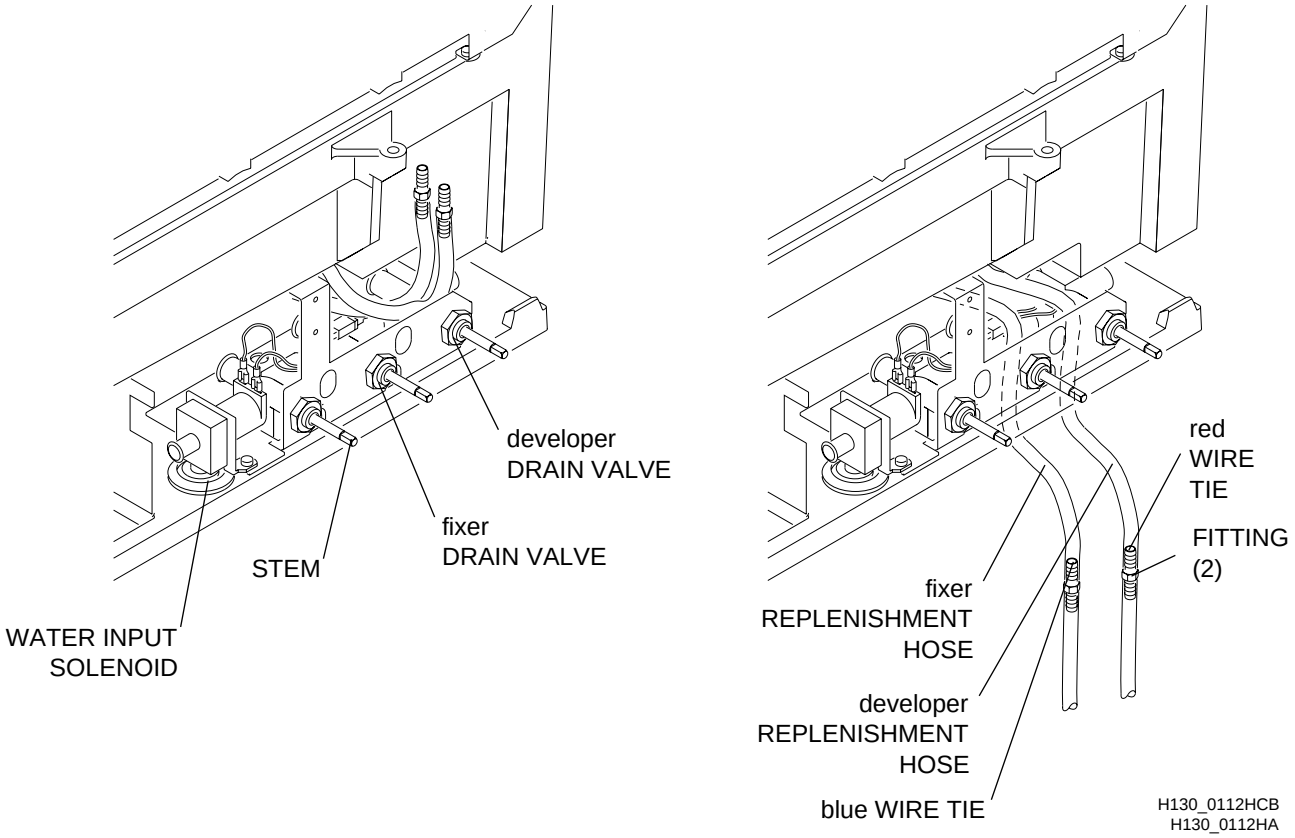
If you are installing the PROCESSOR through the darkroom wall, see "Installing the PROCESSOR Through the Wall" on Page 13.

[3] Route the REPLENISHMENT HOSES through the HOLES in the base of the PROCESSOR.

Note

- HOSES for connecting the REPLENISHMENT TANKS to the REPLENISHMENT HOSES on the PROCESSOR are not packed with the PROCESSOR. Use standard 3⁄8-in. tubing.
- Use a small HOSE CLAMP (provided with M43 and M43A only).
- The FITTING on the fixer REPLENISHMENT HOSE has a **blue** WIRE TIE for easy identification. The FITTING on the developer REPLENISHMENT HOSE has a **red** WIRE TIE for easy identification.

Figure 45 **Connecting the REPLENISHMENT HOSES**



[4] Connect the fixer REPLENISHMENT HOSE on the PROCESSOR to the fixer REPLENISHMENT TANK.

[5] Install a STRAINER ASSEMBLY in the fixer REPLENISHMENT HOSE near the REPLENISHMENT TANK.

[6] Connect the developer REPLENISHMENT HOSE to the developer REPLENISHMENT TANK.

[7] Install a STRAINER ASSEMBLY in the developer REPLENISHMENT HOSE near the REPLENISHMENT TANK.

Section 9: Doing the Water Leak Test

[1] If SEISMIC BRACKETS are needed and if the PROCESSOR is in its final position, install the SEISMIC BRACKETS at this time. See the instructions provided with the SEISMIC BRACKET KIT 261413.

[2] Check that all 3 DRAIN VALVES are closed.

[3] Fill the FIXER and DEVELOPER TANKS **with water** until the level of the water is at the OVERFLOW WEIRS. Water will go down the DRAIN LINES when the TANKS are full.

Caution

To prevent spills or splashes into other TANKS or onto electrical parts:

- Check that the SIDE ACCESS PANELS are installed.
- Pour the water into the TANK at the non-drive end of the PROCESSOR.
- Do not pour water onto the RACKS.

Figure 46 **Filling the TANKS for the Water Leak Test**

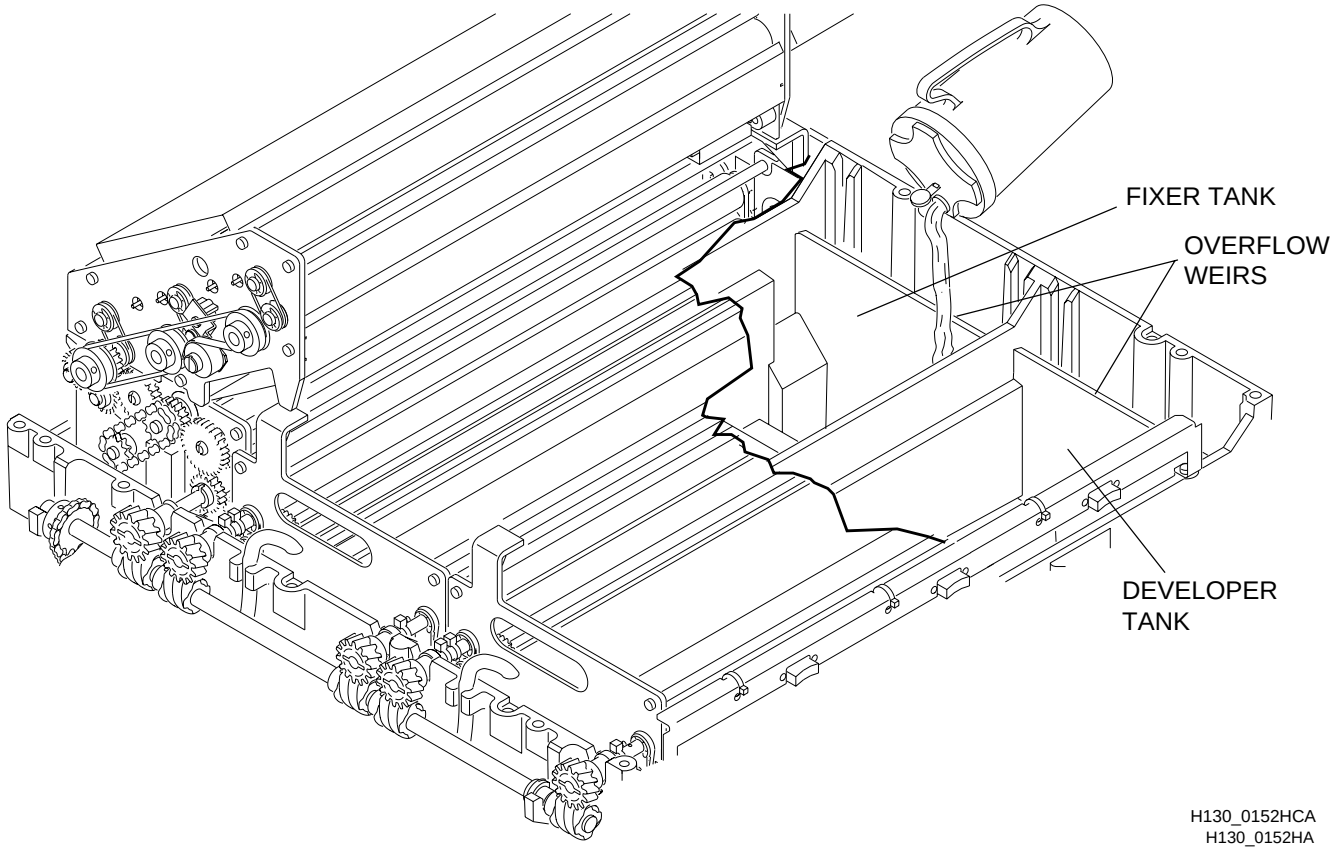
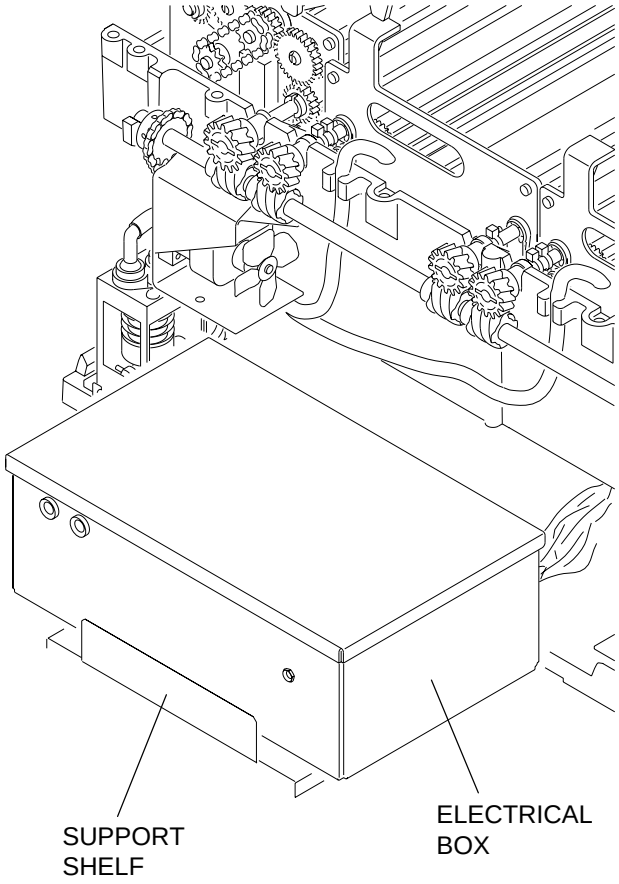


Figure 47 **Checking for Leaks Behind the ELECTRICAL BOX**



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H130_0151CA

[4] Check that the PROCESSOR is still level when it is full of solution. See the procedure on Page 47. Leveling the PROCESSOR correctly will ensure:

- the correct flow of the processing solutions
- the correct transport of the film
- the correct fit of all ACCESS PANELS

[5] Check for leaks at all connections. Tighten HOSE CLAMPS as necessary.

[6] Pull out the SUPPORT SHELF for the ELECTRICAL BOX from the drive side of the PROCESSOR.

[7] Pull out the ELECTRICAL BOX.

[8] Using a FLASHLIGHT, check for leaks behind the ELECTRICAL BOX. Tighten HOSE CLAMPS, as necessary.

[9] Push the SUPPORT SHELF and the ELECTRICAL BOX to their original positions.

[10] Turn on the main water supply to the PROCESSOR.

Warning
Dangerous Voltage

[11] Connect the main power to the PROCESSOR.

[12] Rotate the DRYER TEMPERATURE CONTROL KNOB on the DISPLAY PANEL fully counterclockwise ↶.

Figure 48 **Identifying Components on the DISPLAY PANEL**

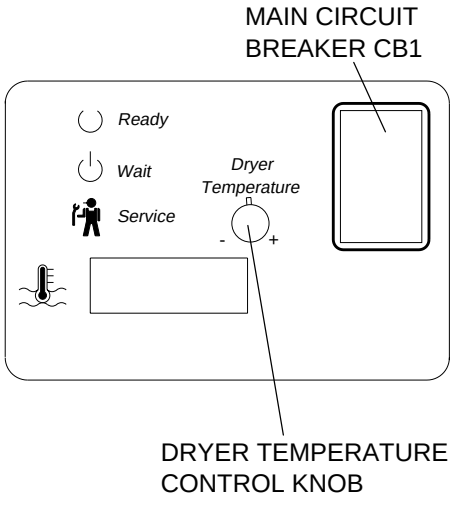

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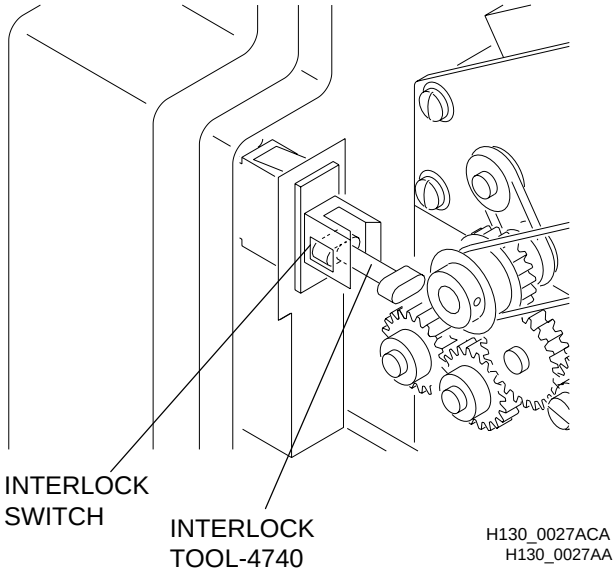
Figure 49 **Inserting the INTERLOCK TOOL into the AC INTERLOCK SWITCH S5**



[13] Insert the INTERLOCK TOOL TL-4740 into the AC INTERLOCK SWITCH S5, located near the DRYER ASSEMBLY on the drive side of the PROCESSOR.

[14] Place a MAGNET onto the DC INTERLOCK SWITCH S6 on the DRYER PLENUM BRACKET.

[15] Energize the PROCESSOR by moving the MAIN CIRCUIT BREAKER CB1 to the "1" position.

[16] Check that:

- GEARS turn
- ROLLERS turn
- RACKS remain seated in place

[17] Check that:

- RECIRCULATION PUMPS energize
  - look for movement on the surface of the solutions in the DEVELOPER and FIXER TANKS
- DRYER BLOWER energizes
- WATER INPUT SOLENOID opens to replenish the WASH TANK
  - wait 3 minutes for the WASH TANK to fill partially before doing the next step

Note

The DEVELOPER TEMPERATURE DISPLAY on an M43 or M43A PROCESSOR will not display a temperature reading until the developer temperature reaches a minimum of 24°C (75°F).

[18] Feed two 35 x 43 cm (14 x 17 in.) sheets of **pre-processed** or cleanup film.

(a) Check that the REPLENISHMENT PUMP energizes.

(b) Check that the WATER INPUT SOLENOID opens to replenish the WASH TANK.

(c) Check that the WASH PUMP starts pumping water into the WASH TUBES within 60 seconds from the time you block a FILM SENSOR.

(d) Check that the transport system is operating correctly by checking that the films exit the PROCESSOR and drop into the RECEIVE BIN within approximately 130 seconds after they were fed.

Note

Depending on the current state of the PROCESSOR:

- the WAIT INDICATOR may blink or may not blink
- the film feed signal may beep multiple times

[19] If the PROCESSOR is not at the "Ready State," wait 10 - 45 minutes, depending on the temperature of the water, for the READY INDICATOR to remain illuminated.

Warning

Dangerous Voltage

[20] De-energize the PROCESSOR by moving the MAIN CIRCUIT BREAKER CB1 to the “O” position.

[21] Disconnect the main power supply from the PROCESSOR.

[22] Check for leaks under the TANKS by doing Steps 6 through 11 on Page 55.

[23] Energize the PROCESSOR by moving the MAIN CIRCUIT BREAKER CB1 to the “1” position.

[24] For all installations, continue with section “Setting the Developer Temperature” on Page 58.

Section 10: Setting the Developer Temperature

[1] Insert a calibrated THERMOMETER TL-1582 into the DEVELOPER TANK and measure the temperature of the developer solution.

(a) If the temperature is 33.9°C ±0.3°C (93°F ±½°F), go to section "Checking and Adjusting the Replenishment Rates" on Page 60.

(b) If the temperature is **not** 33.9°C ±0.3°C (93°F ±½°F), continue with this procedure.

ESD
Possible damage from electrostatic discharge.

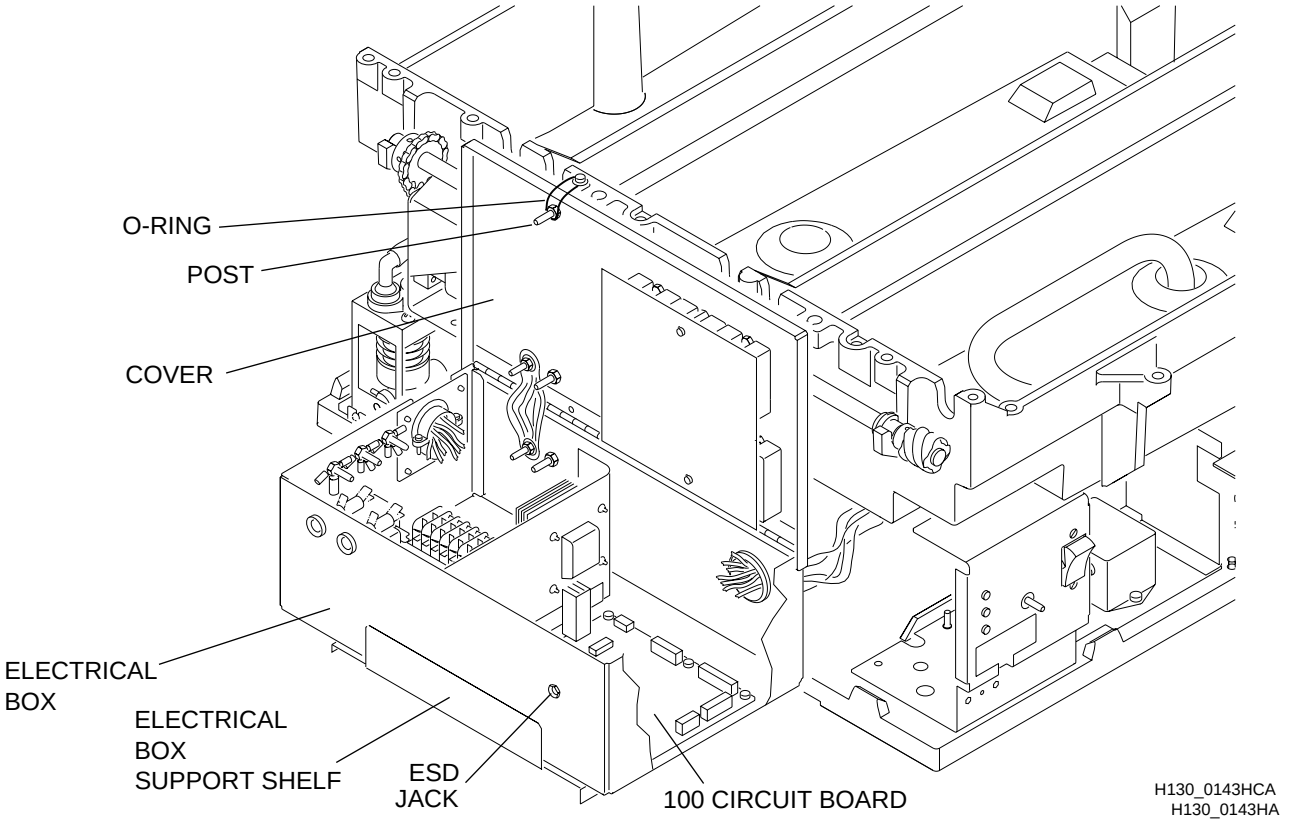
[2] Pull out the SUPPORT SHELF for the ELECTRICAL BOX from the drive side of the PROCESSOR.

[3] Pull out the ELECTRICAL BOX.

[4] Connect your ESD protective wrist strap into the ESD JACK on the ELECTRICAL BOX.

[5] Open the COVER of the ELECTRICAL BOX. Fasten the COVER open by placing the O-RING, that is on the PROCESSOR TANK, around the POST on the COVER.

Figure 50 **Pulling Out the ELECTRICAL BOX**



[6] Check the voltage between TEST POINT TP30 and GROUND TP14 on the 100 CIRCUIT BOARD.

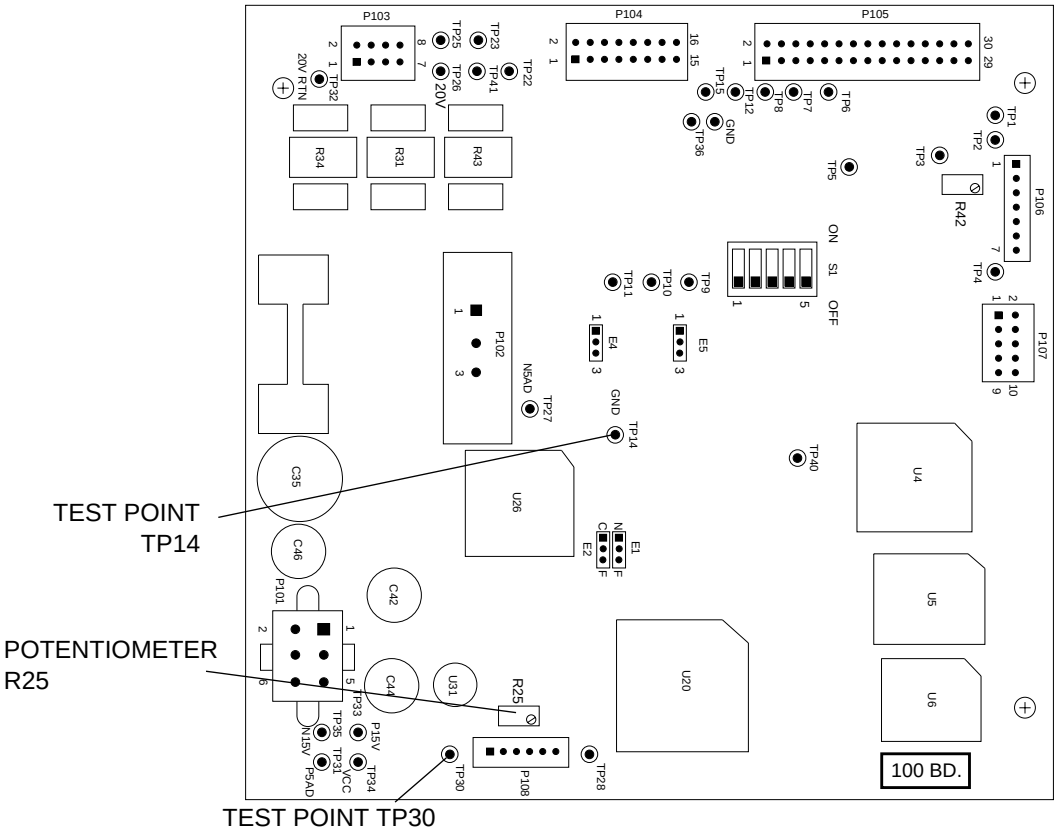
- A reading of 1.17 V DC provides a developer setpoint temperature of approximately 33.9°C (93.0°F).

- The higher the voltage reading across TEST POINTS TP14 and TP30, the higher the developer setpoint temperature.
  - Rotate POTENTIOMETER R25 clockwise ↷ **to increase** the voltage across TEST POINTS TP14 and TP30.
  - Rotate POTENTIOMETER R25 counterclockwise ↶ **to decrease** the voltage across TEST POINTS TP14 and TP30.

Note

A 40 mV change between TP14 and TP30 equals a 0.1°F change in temperature.

Figure 51 **Checking the Voltage Between TP30 and TP14**



[7] After the READY LIGHT comes on, check the temperature reading on the calibrated THERMOMETER again.

(a) If necessary, adjust POTENTIOMETER R25 until you obtain a developer temperature reading of 33.9°C (93.0°F).

[8] **For the M43 and M43A PROCESSORS Only -** if the temperature shown on the DEVELOPER TEMPERATURE DISPLAY matches the temperature shown on the calibrated THERMOMETER, then the DEVELOPER TEMPERATURE DISPLAY is calibrated correctly. If the temperature shown on the DEVELOPER TEMPERATURE DISPLAY does **not** match the temperature shown on the THERMOMETER, then you need to calibrate the DEVELOPER TEMPERATURE DISPLAY. See the calibration procedure in the Service Manual, Publication No. 981090.

[9] Close the COVER on the ELECTRICAL BOX.

[10] Disconnect your ESD wrist strap.

[11] Slide the ELECTRICAL BOX and the SUPPORT SHELF into the PROCESSOR.

Section 11: Checking and Adjusting the Replenishment Rates

The REPLENISHMENT PUMPS are preset by the factory so that they will pump proportional volumes of developer and fixer replenishment solutions. The replenishment rate for the fixer should always remain 15 to 20% greater than the replenishment rate for the developer in medium-to-low volume installations. When checking the replenishment rate, always check **both the developer and the fixer**, but make your adjustments based on the developer solution. See the Replenishment Rate Sheet, Publication Number 1C0578, for more detailed information on how to set the unit for high volume use.

For the recommended replenishment rates for developer and fixer, see Replenishment Rate Sheet, Publication Number 1C0578 provided in the front pocket of your publications binder.

[1] Check that no air is in the replenishment lines.

[2] Enter the Replenishment Calibration Check Mode by doing the following steps:

(a) Check that the PROCESSOR is energized.

(b) Check that the TOP COVER is removed from the PROCESSOR.

(c) If previously inserted, remove the INTERLOCK TOOL from the AC INTERLOCK SWITCH S5.

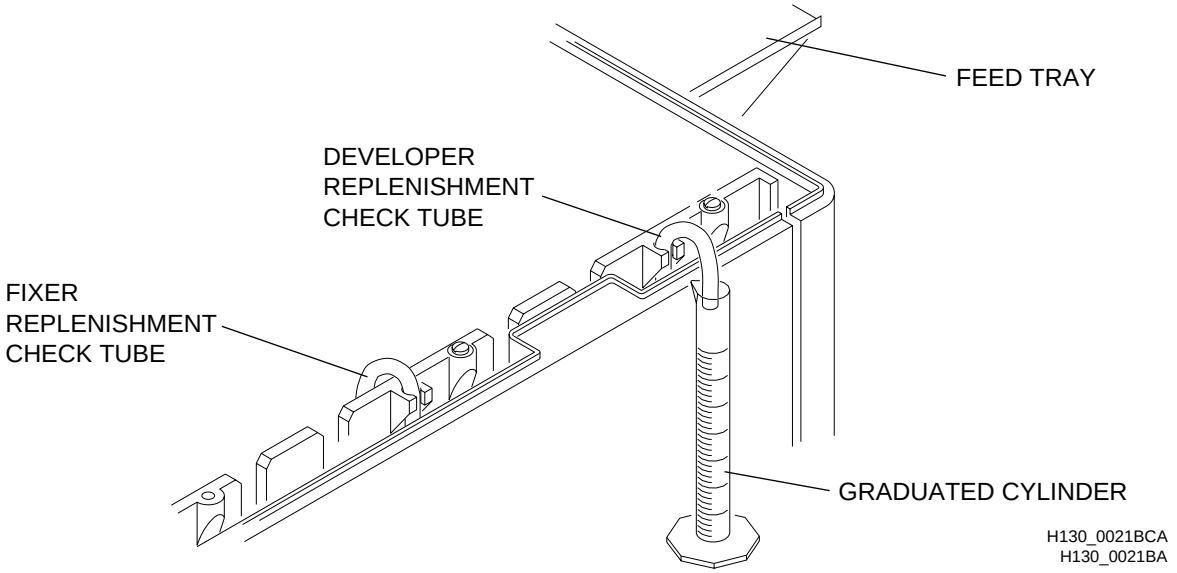
(d) If previously inserted, remove the MAGNET from the DC INTERLOCK SWITCH S6 on the DRYER PLENUM BRACKET.

Note

- The DC INTERLOCK SWITCH S6 is only found in PROCESSORS that either have a serial number of 350 or higher, or have Mod 1 installed.
- You will not see or hear any of the individual components of the PROCESSOR energize because the INTERLOCK SWITCH has not been activated.

[3] Insert the **DEVELOPER** REPLENISHMENT CHECK TUBE into a 500 mL GRADUATED CYLINDER TL-1435 (provided with M43 and M43A only).

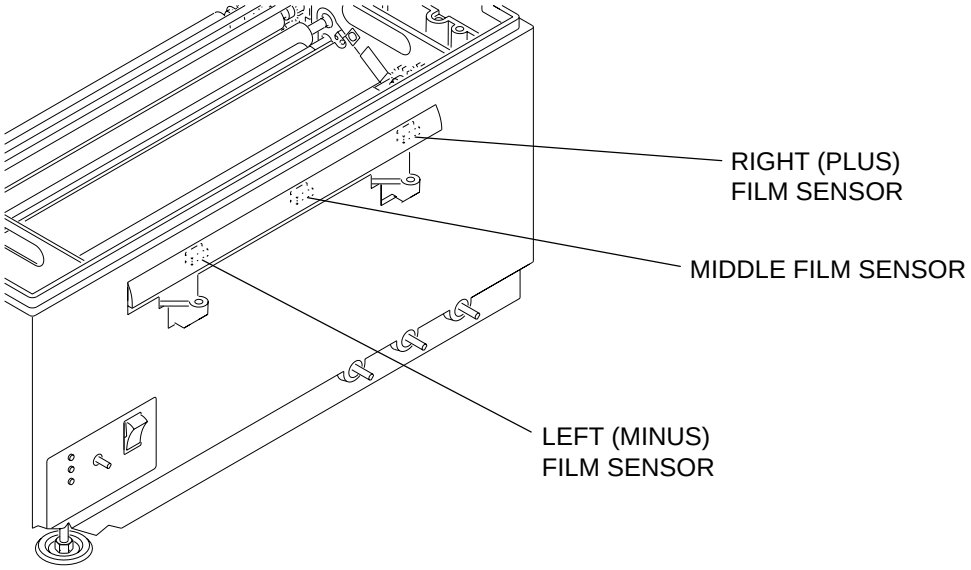
Figure 52 **Checking the Developer Replenishment Rate**



[4] Insert and remove a small sheet of film or a card under the MIDDLE FILM SENSOR.

- Do not allow the sheet of film or card to touch the RIGHT (PLUS) FILM SENSOR or LEFT (MINUS) FILM SENSOR.
- The PROCESSOR will beep twice to acknowledge the request for replenishment.
- The PROCESSOR will pump the preset volume of developer and fixer replenishment solution for a 34 x 43 cm (14 x 17 in.) sheet of film.

Figure 53 **Inserting and Removing Film Under the MIDDLE FILM SENSOR**



[5] Repeat Step 4 **two** additional times. Check that replenishment solution is pumped each time into the 500 mL GRADUATED CYLINDER.

[6] Measure and record the volume of developer replenishment solution in the GRADUATED CYLINDER.

[7] Calculate the average measurement by dividing the volume of developer replenishment in the 500 mL GRADUATED CYLINDER by 3.

[8] Compare your average of developer replenishment solution to the recommended volume listed in the Replenishment Rate Sheet, Publication Number 1C0578, which is located in the front pocket of your publications binder.

[9] Empty the GRADUATED CYLINDER.

- **If you measured the correct volume of developer replenishment solution, do not make any replenishment adjustments. Go to Step 10 on Page 62.**
- **If you measured less than the recommended volume of developer replenishment solution, do the following steps to increase the rate of replenishment:**

1. Insert the **DEVELOPER** REPLENISHMENT CHECK TUBE into the GRADUATED CYLINDER.
2. Insert and remove a small sheet of film under the **RIGHT (PLUS) FILM SENSOR** on the right side of the FEED TRAY. Listen for the PROCESSOR to beep once indicating an increase of 5 mL. To make large changes in the replenishment rate, you may insert and remove a sheet of film from the RIGHT (PLUS) FILM SENSOR several times consecutively.
3. Again, insert and remove a small sheet of film under the **MIDDLE FILM SENSOR** three times.
4. Measure and record the volume of developer replenishment solution in the GRADUATED CYLINDER.
5. Calculate the average measurement by dividing the total volume of replenishment solution by 3.
6. Empty the replenishment solution from the GRADUATED CYLINDER.
7. Again, compare your recorded average developer replenishment solution to the recommended volume listed in the Replenishment Rate Sheet located in the front pocket of your publications binder.
8. If the volume is below the recommended volume by more than 3 mL, continue increasing the replenishment rate as necessary.
9. Check that the DEVELOPER REPLENISHMENT CHECK TUBE is pushed down into the DEVELOPER TANK.
10. Go to Step 11 on Page 62 to adjust the replenishment rate for the fixer.

- **If you measured more than the recommended volume of developer replenishment solution, do the following steps to decrease the rate of replenishment. See the Replenishment Rate Sheet in the front pocket of your publications binder for the recommended volume of replenishment.**
  1. Check that the GRADUATED CYLINDER is empty.
  2. Insert the **DEVELOPER** REPLENISHMENT CHECK TUBE into the GRADUATED CYLINDER.
  3. Insert and remove a small sheet of film under the **LEFT (MINUS) FILM SENSOR** to the left side of the FEED TRAY. Listen for the PROCESSOR to beep once indicating a decrease of 5 mL.
     To make large changes in the replenishment rate, you may insert and remove a sheet of film from the LEFT (MINUS) FILM SENSOR several times consecutively.
  4. Again, insert and remove a small sheet of film under the **MIDDLE FILM SENSOR** three times.
  5. Measure and record the volume of developer replenishment solution in the GRADUATED CYLINDER.
  6. Calculate the average measurement by dividing the total volume of replenishment solution by 3.
  7. Empty the replenishment solution from the GRADUATED CYLINDER.
  8. Again, compare your recorded average of developer replenishment solution to the recommended volume listed in the Replenishment Rate Sheet in the front pocket of your publications binder.
  9. If the volume is above the recommended volume by more than 3 mL, continue decreasing the replenishment rate as necessary.

Note

Any time you adjust the replenishment rate, you are adjusting the replenishment volume for **both the developer and fixer**. The replenishment rates for the developer and fixer are proportional and cannot be changed by this procedure. Each time you increase or decrease the replenishment rate by inserting and removing a sheet of film under either the RIGHT (PLUS) FILM SENSOR or LEFT (MINUS) FILM SENSOR, you are changing both replenishment rates by approximately 5 mL.

[10] Check that the DEVELOPER REPLENISHMENT CHECK TUBE is pushed down into the DEVELOPER TANK.

[11] Insert the **FIXER** REPLENISHMENT CHECK TUBE into the 500 mL GRADUATED CYLINDER.

[12] Insert and remove a small sheet of film under the MIDDLE FILM SENSOR three times.

- Do not allow the sheet of film to touch the RIGHT (PLUS) FILM SENSOR or the LEFT (MINUS) FILM SENSOR.
- The PROCESSOR will beep twice to acknowledge the request for replenishment.
- The replenishment system will deliver the predetermined volume of solution into the GRADUATED CYLINDER.

Note

The PROCESSOR is set up to pump the preset volume of developer and fixer replenishment solution for a 35 x 43 cm (14 x 17 in.) sheet of film.

[13] Measure and record the volume of fixer replenishment solution in the GRADUATED CYLINDER.

[14] Calculate the average measurement by dividing the volume of fixer replenishment solution in the GRADUATED CYLINDER by 3.

[15] Empty the GRADUATED CYLINDER.

[16] Push the FIXER REPLENISHMENT CHECK TUBE down into the FIXER TANK.

[17] Calculate the ratio of fixer replenishment to developer replenishment by dividing the volume of fixer replenishment you obtained in the GRADUATED CYLINDER by the volume of developer replenishment you obtained.

[18] Compare the ratio you obtained to the recommended ratio listed in the Replenishment Rate Sheet, Publication Number 1C0578, located in the front pocket of your publications binder.

(a) If the ratio is **not** correct, see section "Adjusting the Fixer to Developer Replenishment Rate Ratio" in the Service Manual, Publication Number 981090.

[19] De-energize the PROCESSOR by moving the MAIN CIRCUIT BREAKER CB1 to the "O" position.

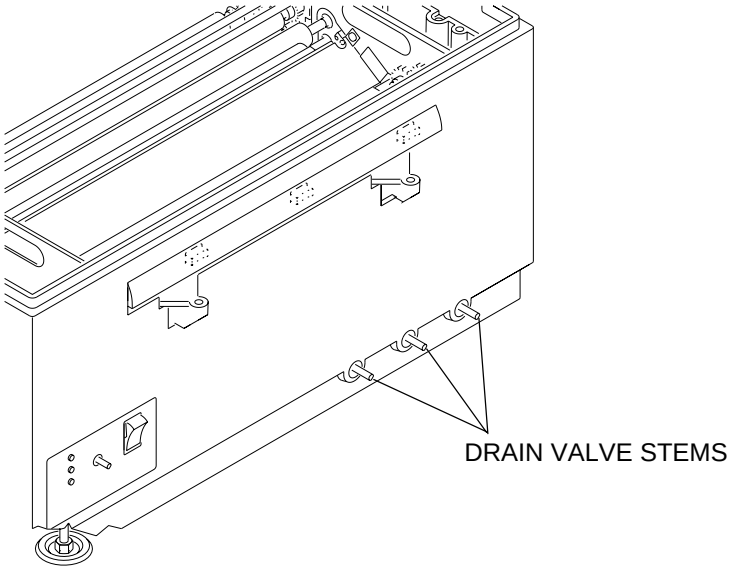
Caution

The PROCESSOR must be de-energized before you drain the TANKS.

[20] Drain the water from the 3 TANKS by rotating the DRAIN VALVE STEMS ¼ turn.

[21] When the TANKS are drained, close the DRAIN VALVES by pushing in the DRAIN VALVE STEMS and rotating them ¼ turn.

Figure 54 **Closing the DRAIN VALVES**



H130_0145BCA
H130_0145BA

[22] Dry the DEVELOPER TANK first, and then the FIXER TANK by wiping the TANKS with a clean, lint-free towel.

[23] If you are installing the PROCESSOR through the darkroom wall, go to section "Filling the TANKS" on Page 67. If not, go to section "Installing the KNOBS" on Page 64.

Section 12: Installing the KNOBS

Installing the KNOBS on the DRAIN VALVES

[1] Install the FRONT ACCESS PANEL onto the PROCESSOR and tighten the 2 SCREWS.

[2] Check that all 3 DRAIN VALVES are closed.

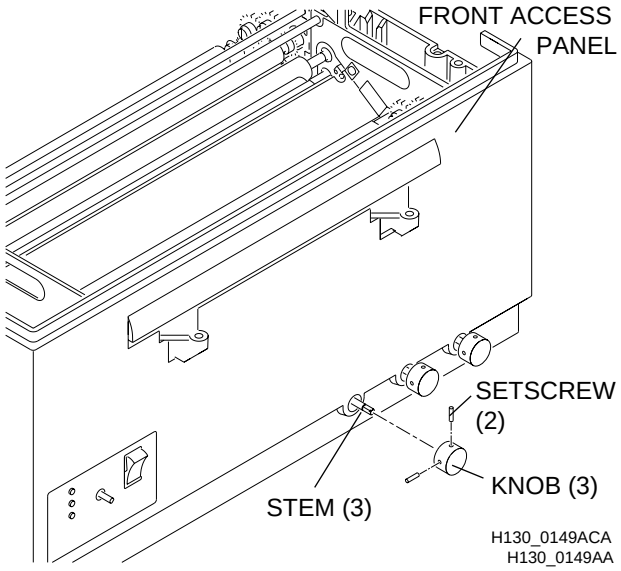
[3] Install the 3 KNOBS.

(a) Check that you align the SETSCREW of the KNOB with the flat section of the STEM.

(b) Leave 3 mm (⅛ in.) gap between the FRONT ACCESS PANEL and the back of the KNOBS.

(c) Secure the KNOBS using the 2 SETSCREWS provided for each.

Figure 55 **Installing the KNOBS for the DRAIN VALVES**



Installing the DRYER TEMPERATURE CONTROL KNOB

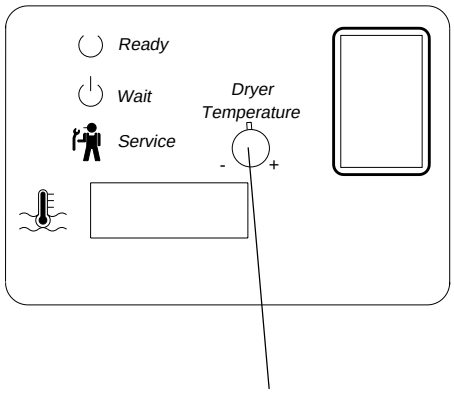
[1] Install the DRYER TEMPERATURE CONTROL KNOB.

(a) Align the SETSCREW of the KNOB with the flat section of the STEM.

(b) Press the DRYER TEMPERATURE CONTROL KNOB onto the STEM of the DRYER TEMPERATURE CONTROL.

(c) Check that the DRYER TEMPERATURE CONTROL KNOB is not touching the FRONT ACCESS PANEL.

Figure 56 **Installing the DRYER TEMPERATURE CONTROL KNOB**



Section 13: Installing the FEED TRAY

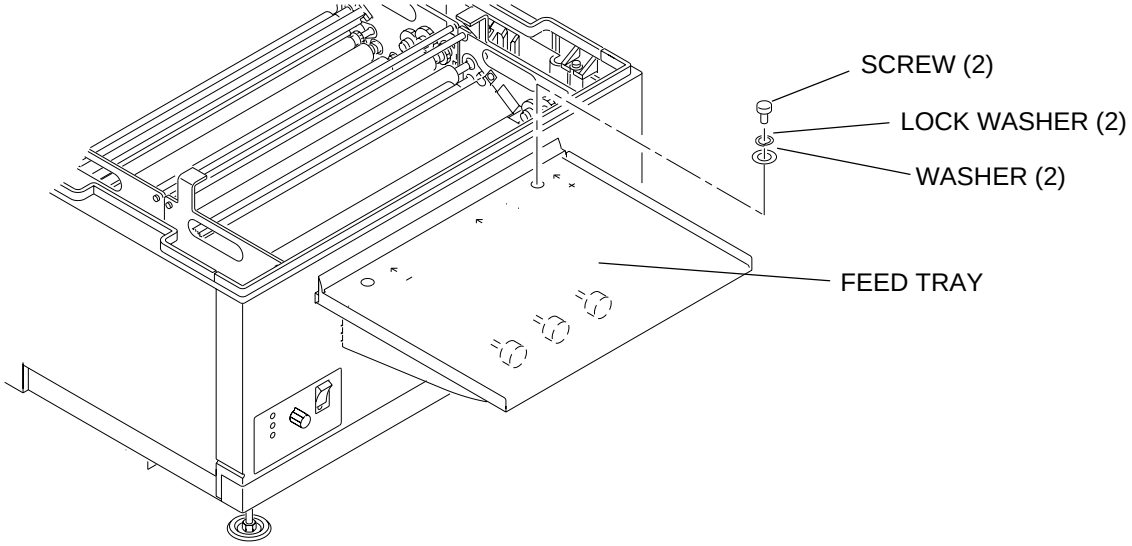
[1] Check that the FRONT ACCESS PANEL is installed on the PROCESSOR.

[2] Align the FEED TRAY so that it is flush with the FRONT ACCESS PANEL on the PROCESSOR.

[3] Install the following parts that secure the FEED TRAY onto the PROCESSOR:

- 2 SCREWS
- 2 LOCK WASHERS
- 2 WASHERS

Figure 57 **Installing the FEED TRAY**



Section 14: Installing the LIGHTTIGHT FEED TRAY

If you plan to install a LIGHTTIGHT FEED TRAY, see the Installation Instructions, Publication Number 1C0937, provided with the kit.

Section 15: Filling the TANKS with the Developer and Fixer Solutions

Mixing the Chemicals

Warning

Wear rubber gloves, safety glasses, and protective clothing when mixing chemicals and filling the TANKS.

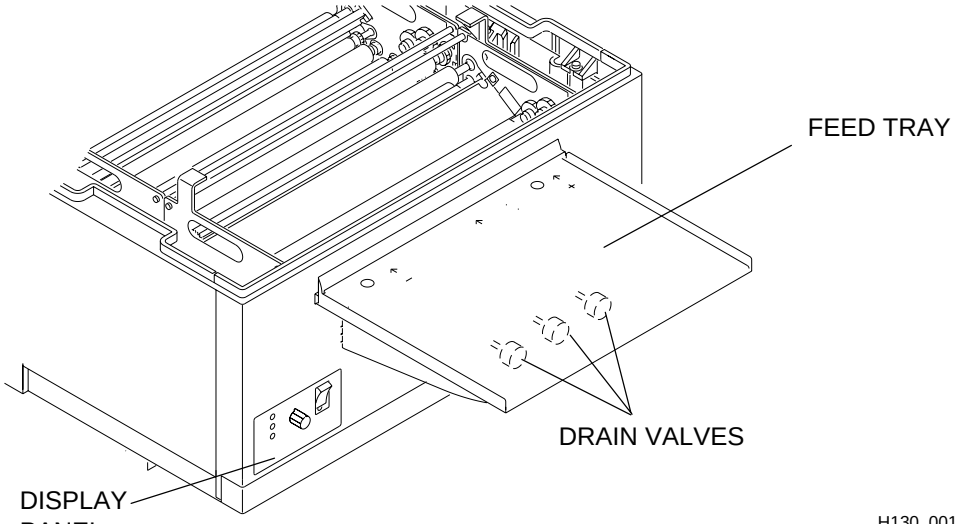
Important

- When mixing chemical solutions, follow all instructions and precautions on the labels of the chemical bottles.
- Mix only a 2-week supply of developer replenisher.

[1] Following all directions provided with the chemicals, mix at least 19 litres (5 gallons) of replenisher.

[2] Before adding fresh chemicals to an empty PROCESSOR, check that the developer and fixer DRAIN VALVES are fully closed. The DRAIN VALVE KNOBS should be pushed in and rotated ¼ turn.

Figure 58 **Closing the DRAIN VALVES**



Filling the FIXER TANK

Warning

- Wear rubber gloves, safety glasses, and protective clothing when mixing chemicals and filling the TANKS.
- If you are changing solutions in both the DEVELOPER TANK and the FIXER TANK, fill the FIXER TANK first so that you can thoroughly clean any fixer solution spilled into the DEVELOPER TANK.
- To prevent spills or splashes into other TANKS or onto electrical parts:
  - Check that the SIDE ACCESS PANELS are installed.
  - Pour the fixer into the TANK at the non-drive side of the PROCESSOR.
  - Do not pour fixer onto the RACK.

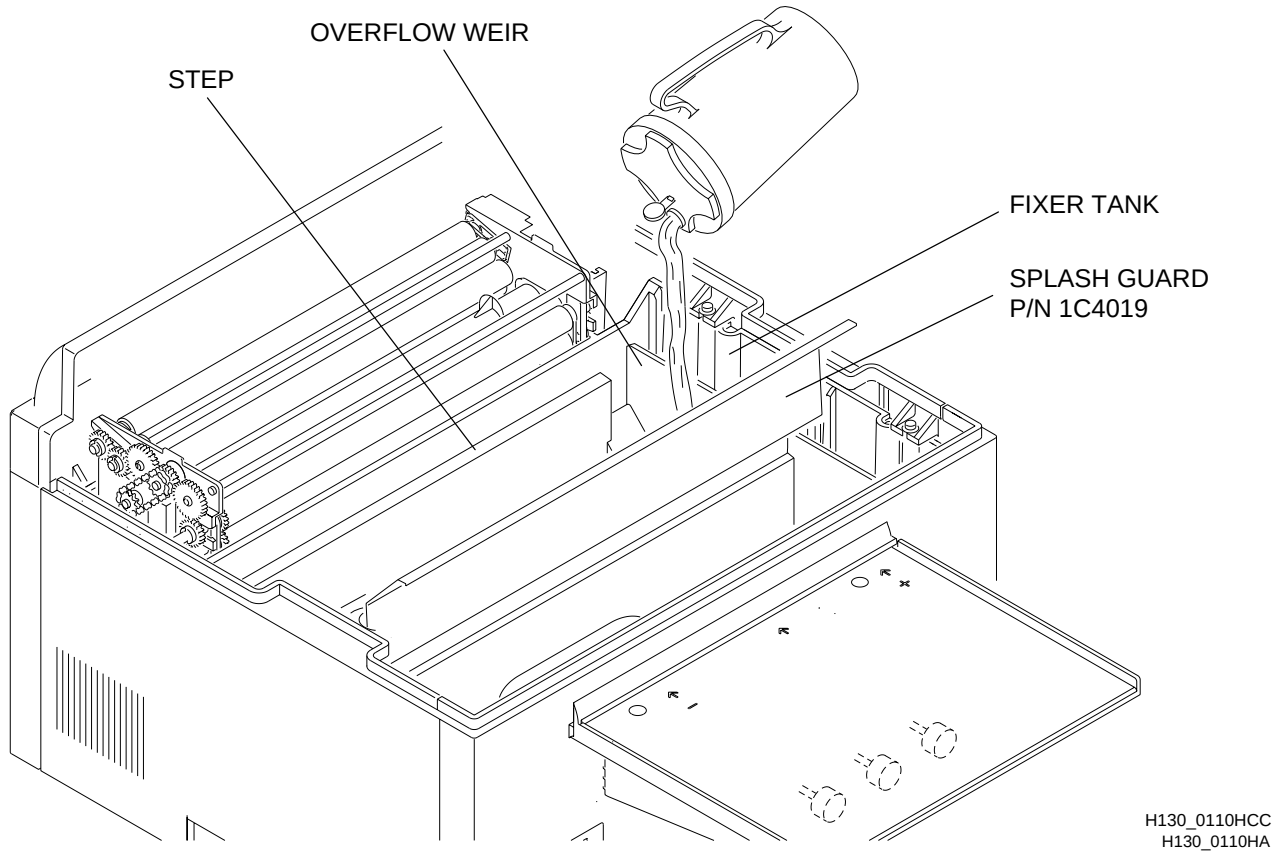
[1] Check that the fixer DRAIN VALVE is fully closed. **Do not overtighten the VALVE.**

[2] Mix the required volume of fixer solution in the fixer REPLENISHMENT TANK as recommended by the instructions packaged with the chemicals.

[3] Install the SPLASH GUARD 1C4019 on the wall between the FIXER TANK and the DEVELOPER TANK. See the figure for the correct orientation of the SPLASH GUARD.

[4] Carefully pour fixer solution into the non-drive side of the empty FIXER TANK until the level of the solution in the TANK is at the top of the STEP.

Figure 59 **Installing the SPLASH GUARD and Checking the Level of the Fixer Solution**



[5] Very carefully, install the FIXER RACK into the FIXER TANK onto the edge of the SPLASH GUARD. You can identify the FIXER RACK by the **blue** WIRE TIE.

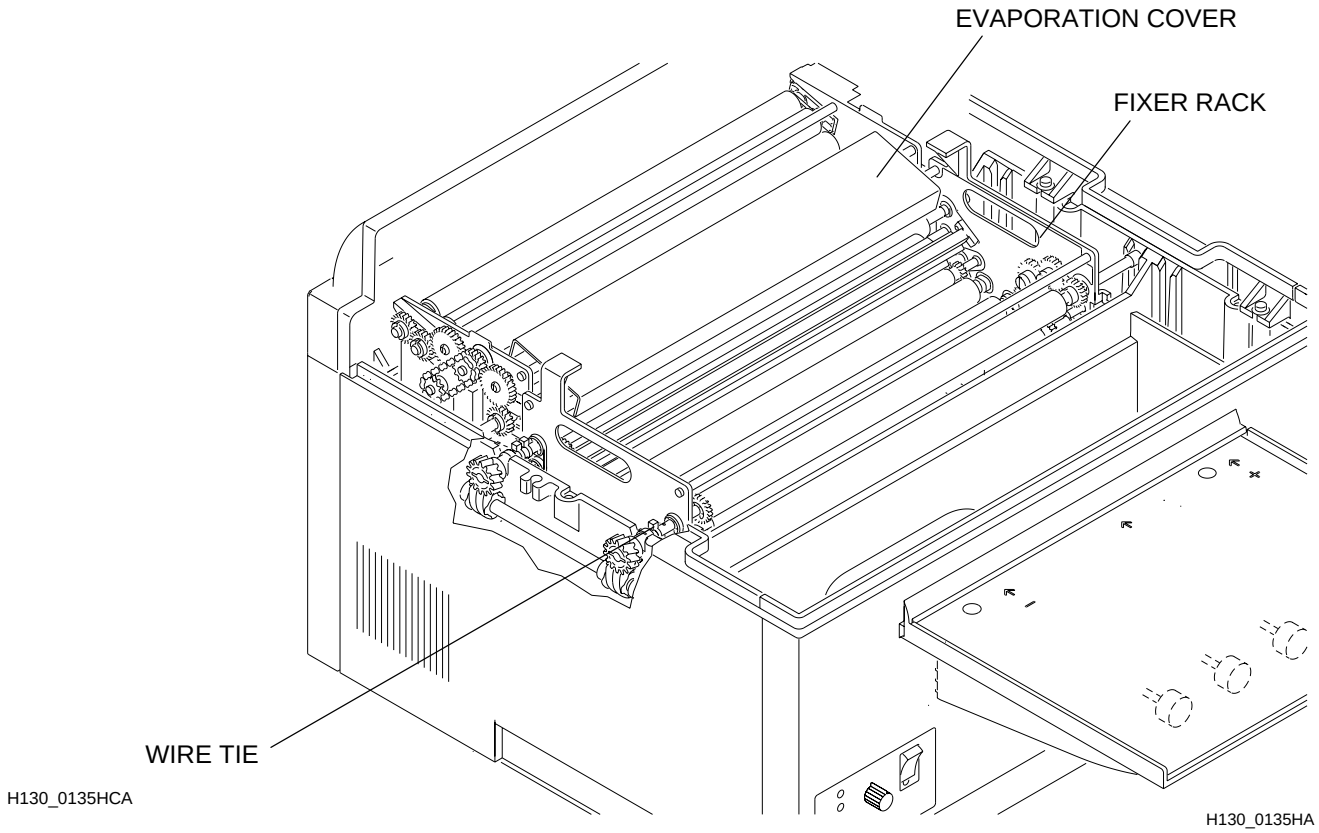
(a) Check that the fixer solution did not spill or splash into the DEVELOPER TANK. If necessary, rinse and dry the DEVELOPER TANK by wiping the TANK with a clean, lint-free cloth.

(b) Check that the RACK is seated firmly in the FIXER TANK.

[6] Check that the level of the solution in the FIXER TANK is at the top of the OVERFLOW WEIR. If necessary, add more solution. See Figure 59 on Page 68.

[7] Install the fixer EVAPORATION COVER between the FIXER RACK and the WASH RACK. Position the EVAPORATION COVER on the TIE RODS of the 2 RACKS as shown.

Figure 60 **Installing the Fixer EVAPORATION COVER**



Filling the DEVELOPER TANK

[1] Check that the developer DRAIN VALVE is fully closed. **Do not overtighten the VALVE.**

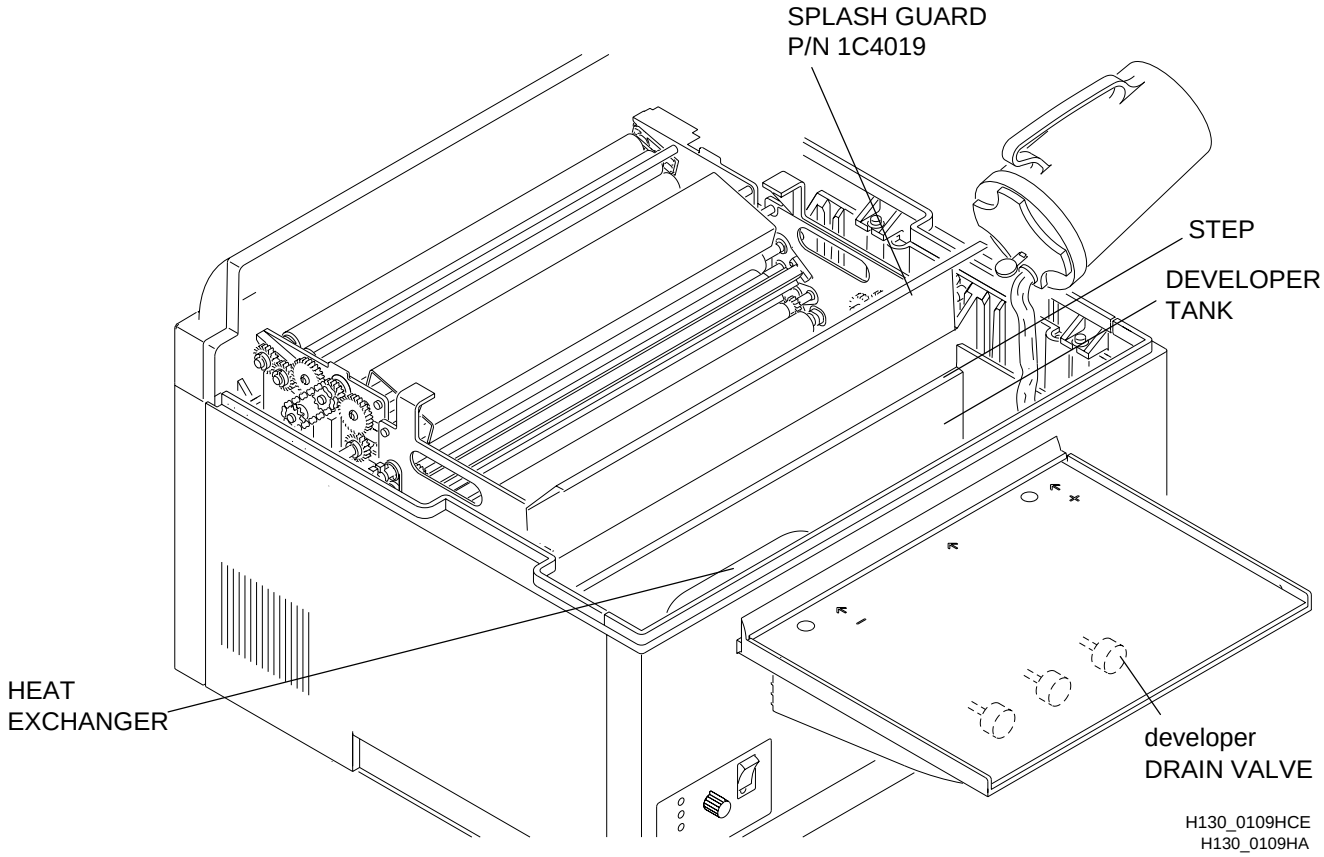
Warning

- Wear rubber gloves, safety glasses, and protective clothing when mixing chemicals and filling the tanks.
- To prevent spills or splashes into other TANKS or onto electrical parts:
  - Check that the SIDE ACCESS PANELS are installed.
  - Pour the developer into the TANK at the non-drive side of the PROCESSOR.
  - Do not pour developer onto the RACK.

[2] Mix the volume of developer solution required in the DEVELOPER TANK as recommended by the directions packaged with the chemicals.

[3] Check that the DEVELOPER TANK does not contain any spills of fixer solution. If necessary, rinse and dry the DEVELOPER TANK by wiping the TANK with a clean, lint-free cloth.

Figure 61 **Checking the Level of the Developer Solution**



Important

It is important to do the following steps in the correct sequence to prevent *Kodak* RP *X-Omat* Developer Starter from going down the DRAIN HOSES.

[4] Pour developer solution into the DEVELOPER TANK until the level of the solution completely covers the HEAT EXCHANGER in the bottom of the DEVELOPER TANK. See Figure 61 on Page 70.

[5] Pour 266 mL (9 fl oz.) of *Kodak* RP *X-Omat* Developer Starter into the DEVELOPER TANK.

[6] Pour more developer solution into the DEVELOPER TANK until the level of the solution reaches the top of the STEP in the DEVELOPER TANK.

[7] Remove the SPLASH GUARD. Rinse and store it near the PROCESSOR.

Caution

Wet ENTRANCE ROLLERS of the DEVELOPER and FIXER RACKS can cause artifacts.

[8] Very carefully, install the DEVELOPER RACK into the DEVELOPER TANK. You can identify the DEVELOPER RACK by the **red** WIRE TIE.

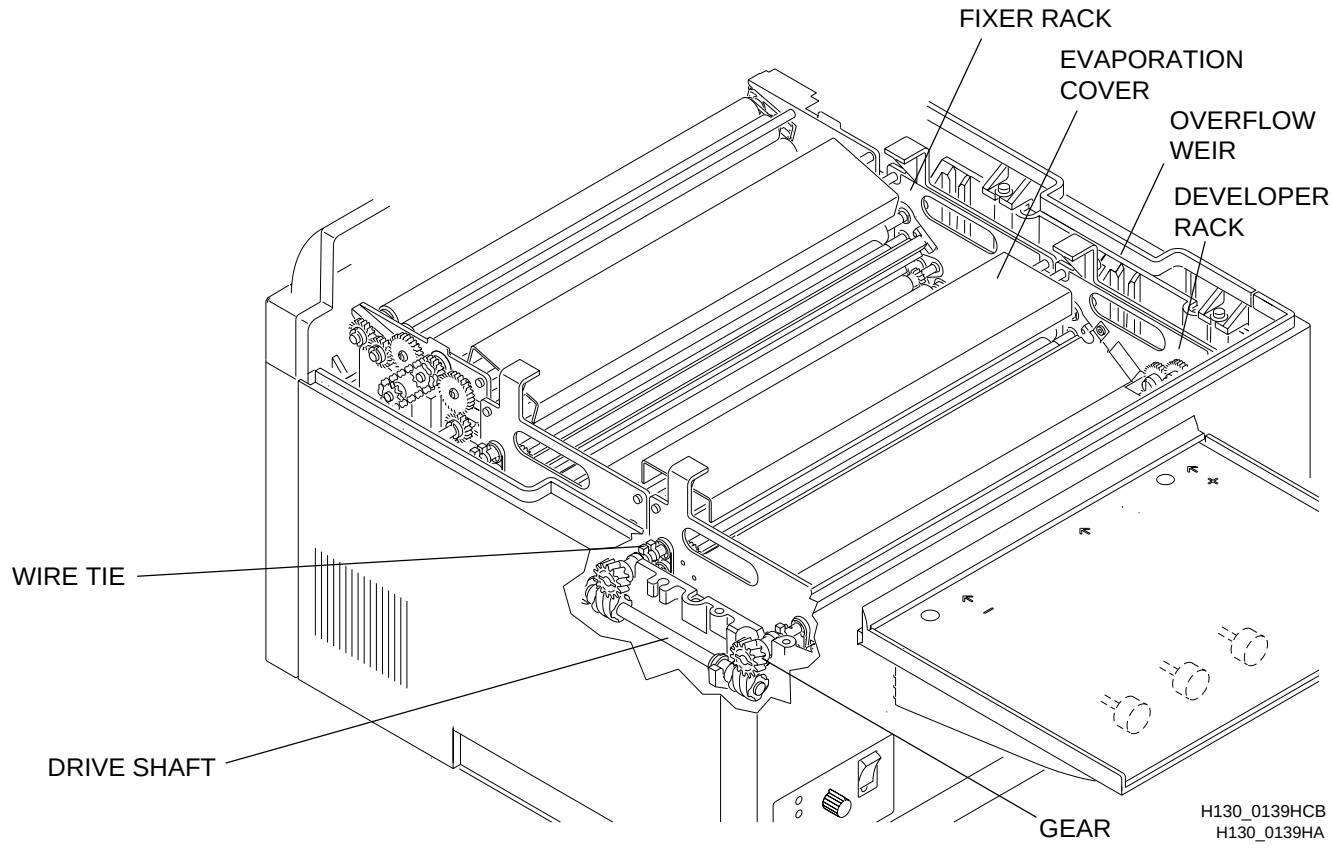
- Be careful not to splash any developer solution into the FIXER TANK.
  - Small amounts of developer solution in the FIXER TANK will not seriously contaminate the fixer solution, but will degrade it.
- Check that the DEVELOPER RACK is seated firmly in the DEVELOPER TANK.

[9] Check that the DRIVE GEARS on the DEVELOPER and FIXER RACKS correctly engage the GEARS on the MAIN DRIVE SHAFT.

[10] Check that the level of the solution in the DEVELOPER TANK is at the top of the OVERFLOW WEIR. If necessary, add more solution. See Figure 61 on Page 70.

[11] Install the developer EVAPORATION COVER between the DEVELOPER RACK and the FIXER RACK. Position the EVAPORATION COVER on the TIE RODS of the 2 RACKS as shown.

Figure 62 **Installing the Developer EVAPORATION COVER**



[12] Insert the INTERLOCK TOOL TL-4740 into the AC INTERLOCK SWITCH S5.

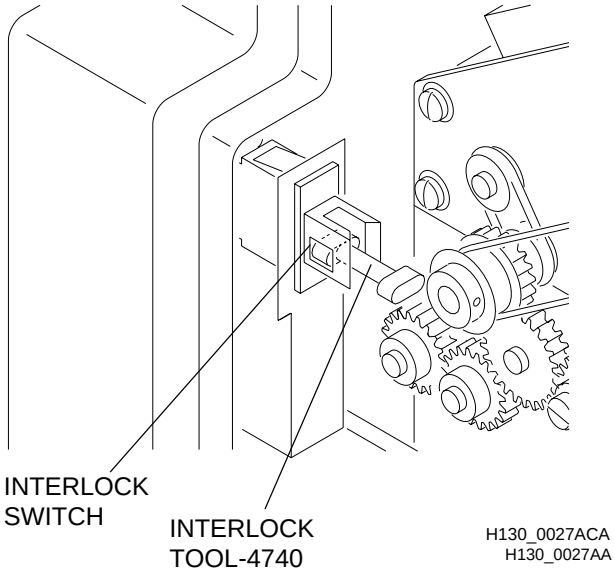
[13] Place a MAGNET onto the DC INTERLOCK SWITCH S6 on the DRYER PLENUM BRACKET.

[14] Check that the main water supply is turned on.

[15] Energize the PROCESSOR by moving the MAIN CIRCUIT BREAKER CB1 to the "1" position.

[16] Allow the PROCESSOR to operate for at least 60 seconds to mix the developer and starter solutions.

Figure 63 **Inserting the INTERLOCK TOOL into the INTERLOCK SWITCH**



Section 16: Final Checkout

Checking for Correct Operation of the PROCESSOR

[1] Check all HOSES and connections for leaks. If leaks are observed, do the following steps.

(a) De-energize the PROCESSOR by moving the MAIN CIRCUIT BREAKER CB1 to the "O" position.

(b) Disconnect the main power from the PROCESSOR.

(c) Tighten the HOSE CLAMPS, as necessary.

[2] If no leakage occurs, remove the INTERLOCK TOOL from the AC INTERLOCK SWITCH S5 and remove the MAGNET from DC INTERLOCK SWITCH S6 on the DRYER PLENUM BRACKET.

[3] Install the DRIVE SIDE ACCESS PANEL onto the PROCESSOR and tighten the 2 SCREWS to secure it.

[4] Install the TOP COVER onto the PROCESSOR.

[5] Check that all ACCESS PANELS are installed on the PROCESSOR.

Transport Test

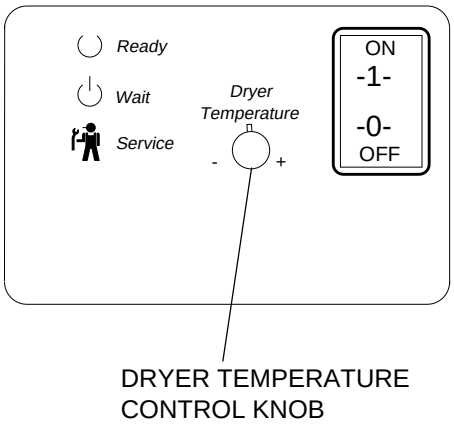
[1] Rotate the DRYER TEMPERATURE CONTROL KNOB, located on the DISPLAY PANEL on the front of the PROCESSOR, so that the POINTER on the KNOB points straight up ↑.

Note

If you are turning the DRYER TEMPERATURE CONTROL KNOB from its full counterclockwise ↶ position, you will feel 5 detents as you turn the KNOB to its upright position.

[2] Wait for the PROCESSOR to warm up and for the READY INDICATOR to remain illuminated, approximately 15 - 45 minutes depending on the site conditions.

Figure 64 **Installing the DRYER TEMPERATURE CONTROL KNOB**



[3] Feed either a sheet of cleanup film or a 35 x 43 cm (14 x 17 in.) sheet of **pre-exposed, non-processed** film into the PROCESSOR. Guide the shorter edge of the film along the drive-side (left) edge of the FEED TRAY when feeding the film. If necessary, see the Operator Manual, Publication Number 981089, for further instructions on feeding film.

Note

The PROCESSOR will beep when the trailing edge of the sheet of film has entered the PROCESSOR.

[4] Check that the sheet of film exits the DRYER ASSEMBLY and drops into the RECEIVE BIN approximately 96 seconds from the time you hear the film feed signal.

Setting the Dryer Temperature

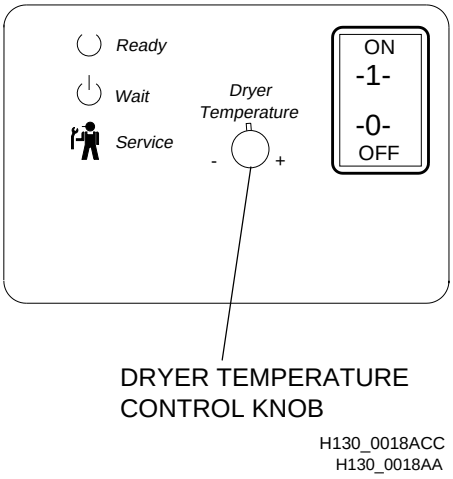
When films exit the DRYER ASSEMBLY they should be “just dry.” The films will feel cool to the touch, but will be dry.

- If films are wet and feel tacky when they exit the DRYER ASSEMBLY, then the dryer setpoint temperature is too low.
- If films are over dry and feel hot to the touch when they exit the DRYER ASSEMBLY, then the dryer setpoint temperature is too high.

Note

- Wait 5 minutes between dryer temperature adjustments so that the DRYER can reach the new setpoint temperature.
- Typically once set up, the dryer setpoint temperature will not be significantly out of proper adjustment. Under most conditions, turning the DRYER TEMPERATURE CONTROL KNOB clockwise to the fifth detent will serve as a good starting point when adjusting the dryer setpoint temperature.

Figure 65 **Locating the DRYER TEMPERATURE CONTROL KNOB**



To adjust the dryer setpoint temperature to the correct temperature setting for your standard film size and type, follow the steps below.

Note

- Single-emulsion films may require a slightly higher dryer setpoint temperature than double-emulsion films.
- *Kodak T-Mat* Films may require a slightly lower dryer setpoint temperature than other film types.

[1] Turn the DRYER TEMPERATURE CONTROL KNOB, located on the DISPLAY PANEL on the front of the PROCESSOR, so that the POINTER on the KNOB points straight up ↑.

(a) If you are turning the DRYER TEMPERATURE CONTROL KNOB from its full counterclockwise position, you will feel 5 detents as you turn the KNOB to its upright position.

[2] Feed a test sheet of **pre-exposed, non-processed** film.

(a) Choose the type and size of film most commonly used.

Note

- If you are **increasing** the dryer setpoint temperature, the READY INDICATOR will illuminate and the WAIT INDICATOR will turn off once the DRYER has reached the new setpoint temperature.
- If you are **decreasing** the dryer setpoint temperature, the WAIT INDICATOR will not illuminate when the DRYER has reached its new setpoint temperature. Therefore, allow 5 minutes after decreasing the dryer setpoint temperature for the DRYER to reach its new setpoint temperature. If you insert a sheet of film too soon, the DRYER will warm up and not cool down. This may cause some erratic results.
- The PROCESSOR may enter standby mode while you are making adjustments to the DRYER.

[3] Examine how the sheet of film feels to the touch as it exits the DRYER ASSEMBLY. The film should feel cool and be dry.

- If the sheet of film is wet or cold when it exits the DRYER ASSEMBLY:
  - turn the DRYER TEMPERATURE CONTROL KNOB clockwise ↷ **two** detent positions
- If the sheet of film is damp or tacky when it exits the DRYER ASSEMBLY:
  - turn the DRYER TEMPERATURE CONTROL KNOB clockwise ↷ **one** detent position
- If the sheet of film is dry and hot when it exits the DRYER ASSEMBLY:
  - turn the DRYER TEMPERATURE CONTROL KNOB counterclockwise ↶ **one** detent position

[4] Repeat Steps 2 and 3 to achieve the correct adjustment.

[5] Check film quality by running exposed test films.

[6] Perform operator training.

Publication History

Print Date	Pub. No.	ECO No.	Affected Pages	File Name	Notes
Jan. 1994	981088	2622-064	All Pages	3229ii_d.txt	1st Printing
March 1994	981088	2622-082	Front Cover, 3, 69, 83, Back Cover	3229ii_d_082.txt	
April 1994	981088	2622-085	Front Cover, 3, 42, 52, 60, 61, 65, 79, 80, 83, Back Cover	3229ii_d_085.txt	Added DC Interlock Switch S6
May 1994	981088	2622-098	Front Cover, 6, 15, 19, 83, Back Cover	3229ii_d_098.txt	Removed Packing List. Corrected Dimensions in Through-the-Wall Illustration
Oct. 1994	981088	2622-117	All Pages	3229ii_d_117.txt	Major Revision and Update to Bring Manual to Final Release Status
01SEP95	981088	2622_157	All Pages	ii3229_3_01sep95.doc	Revision due to product changes; reprinted entire manual due to new publication software used for documentation

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